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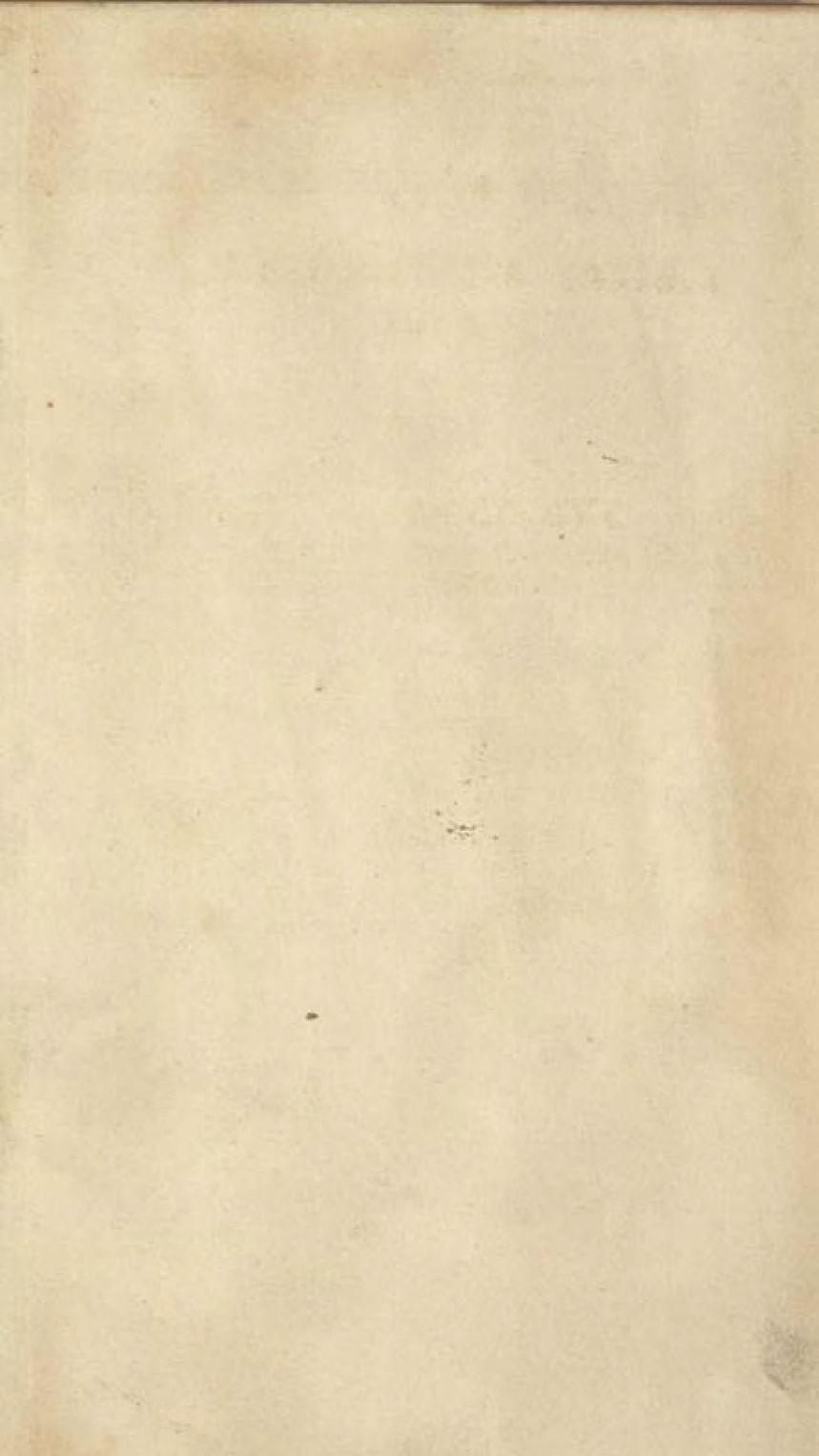
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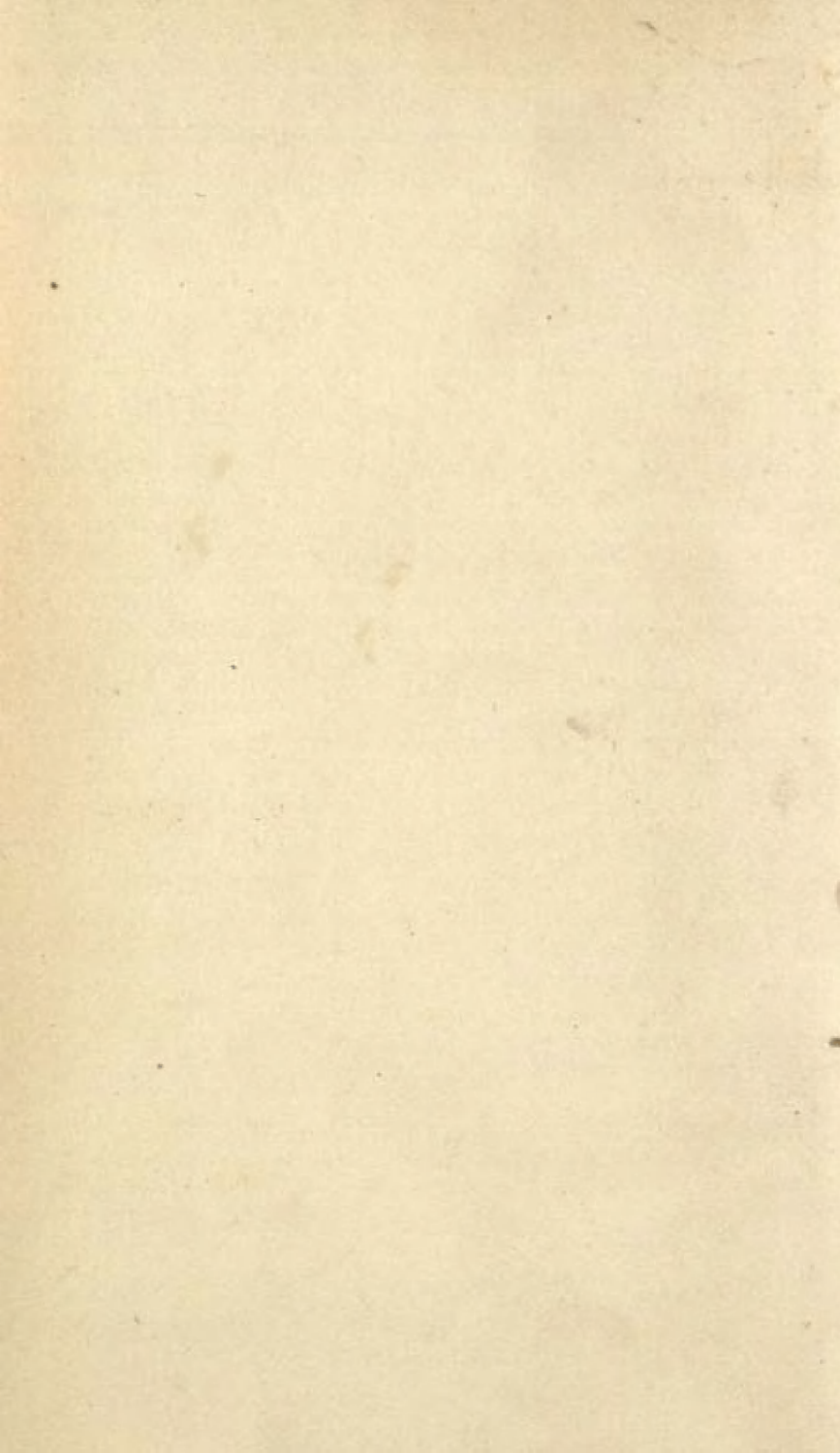
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THE JOURNAL
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FEBRUARY 11TH, 1896.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

Various presents were announced and thanks voted to the respective donors.

The elections of Miss M. E. VERE CUST and Mr. O. F. RICKETTS were announced.

The Rev. J. O. BEVAN, M.A., F.S.A., exhibited a skull which had been found at a depth of about 8 feet below the surface, not far from the banks of the River Wye, at a point somewhat below the city of Hereford, where drainage operations were in progress. The other parts of the skeleton had been dispersed by the workmen. There were no implements or ornaments recovered. There was a doubt whether the spot where the skull was found had been covered by the course of the river, three or four hundred years ago or so. Dr. Garson said the skull belonged to a female; it was of a good type, strongly brachycephalic, and not earlier than the Bronze Age.

The Rev. J. O. Bevan also exhibited a knife which had been found on Tuesday, Jan. 14th last, with eight skeletons, in the course of certain fencing operations carried on in the parish of

Alfriston, near Berwick, Sussex. He showed, too, a map of the district, with photographs and a sketch plan, together with a memorandum from the Rev. J. W. Beynon, vicar of the parish, who had uncovered the find. Two femora and portions of three skulls, which had likewise been sent for exhibition, had unfortunately miscarried. The remains were unearthed near the summit of a hill overlooking the village. There were seven skeletons in a row, about 4 feet apart, lying E. and W., and another, about 21 feet S.E. of the easternmost. They lay in the chalk, the mould being about six or eight inches thick, the next stratum immediately upon the bodies—locally called *challice*—being a kind of brown mixture, partly soil, partly stones, and having no productive powers. In addition, there was discovered a small bit of jet or amber, with two holes, half drilled through; and a small piece of glass, the upper edge being smooth and rounded. The ground thereabouts was tested, but no other remains were ascertainable. The find seems clearly to be of Saxon origin. Such is the declared opinion of Sir John Evans, and of Mr. Read, Secretary of the Society of Antiquaries.

The following papers were read:—

"Discovery of the Stone Age in Somaliland." By H. W. SETON-KARR, Esq. (See vol. xxv, p. 271.)

"Some Notes on Ruined Temples in Mashonaland." By ROBERT M. W. SWAN.

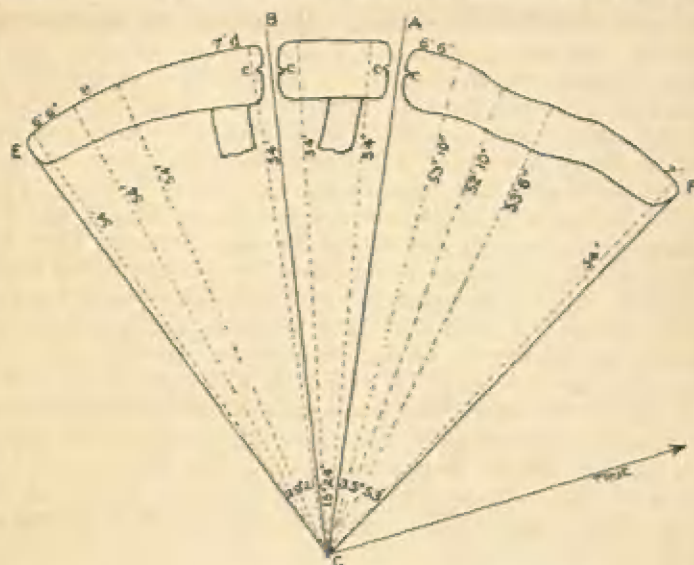
SOME NOTES ON RUINED TEMPLES in MASHONALAND.

By ROBERT M. W. SWAN.

[WITH PLATES I-III.]

THERE are remains of very many temples of the Zimbabwe style in Mashonaland and eastern Bechuanaland, and in describing some which I have visited in the past few months I will refer to the accompanying maps and plans.

Numbers I and II are situated in South latitude $22^{\circ} 39' 42''$, and East longitude $28^{\circ} 10' 45''$; and about 800 yards from the left bank of the Lotsani river at its confluence with the Limpopo river. These ruins stand on two little knolls of diorite, which presents a rough broken surface; and they are about 200 yards apart. Like Zimbabwe they are built of little blocks of granite which are laid in level courses. I was unable to make



No. I.

PLAN OF RUIN ON LOTSANI RIVER.

S. lat. $22^{\circ} 39' 42''$, E. long. $28^{\circ} 10' 45''$.

Scale 1 inch to 20 feet.

G is centre of arc E F.

A is apparent position of sun when setting at winter solstice as seen from G.

c c c are slots for bars.

Height of wall is marked in feet and inches.

Broken red lines show radii which were measured.



PLAN OF RUIN IN MAKLOUTSIE CAMP.

No. III.

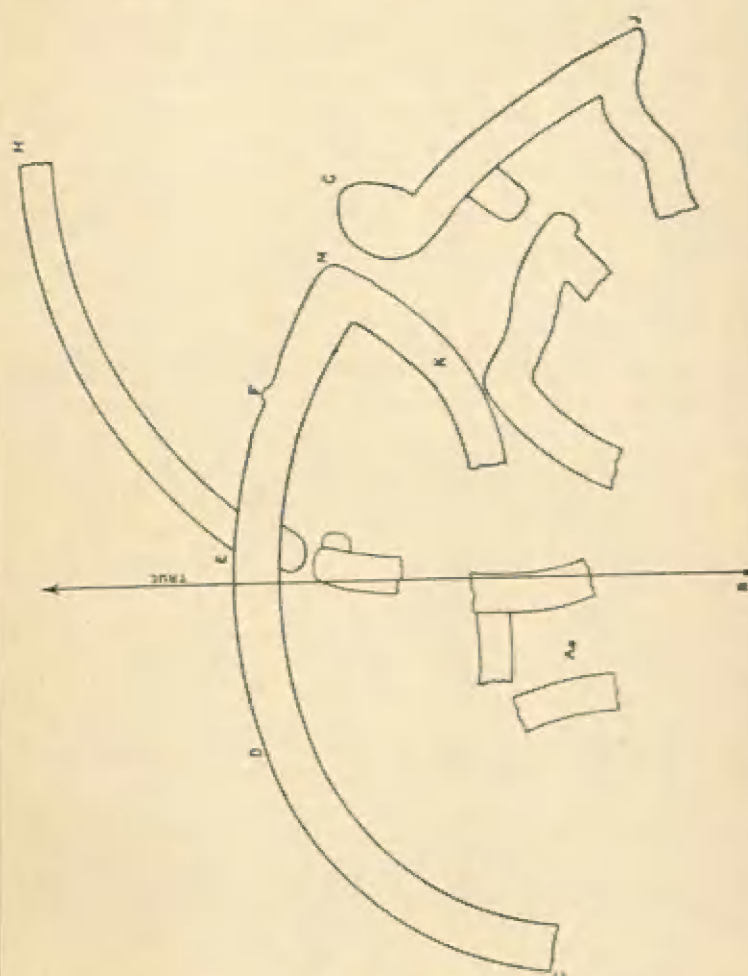
Scale 1 inch to 40 feet.



PLAN OF RUIN NEAR SEMALALI.

No. IX.

Scale 1 inch to 40 feet.



RUIN NO. X.

ON LINCHWE LE KOMO HILL.

Scale 1 inch to 20 feet.

A is centre of arc C D.

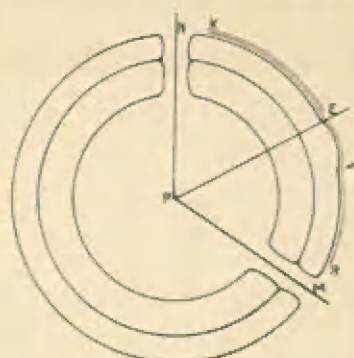
B is centre of arc D E M.

Height of outer wall is from 5 to 8 feet.



MAP SHOWING POSITION OF
RUINS ON 'MSINGWAN RIVER.

Scale $\frac{1}{2}$ inch to 1 mile.



PLAN OF TEMPLE AT LUNDI RIVER,

No. XVI.

Scale $\frac{1}{8}$ inch.

Draught-board decoration extends from K
to R.

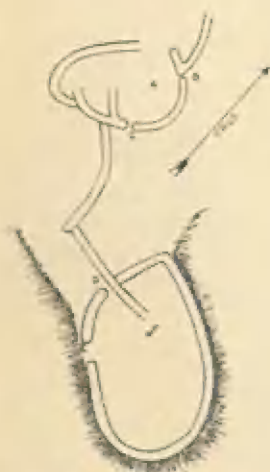
Herring-bone decoration extends from K
to E.



No. XVI.

VERTICAL CROSS SECTION OF WALLS OF
TEMPLE AT THE LUNDI RIVER.

Scale 1 inch to 10 feet.



PLAN OF RUIN ON 'MSINGWAN
RIVER.

No. XIII.

Scale 1 inch to 80 feet.



No. XVI.

ELEVATION OF DECORATED PART OF WALL
OF TEMPLE ON LUNDI RIVER.

Scale 1 inch to 40 inches.

a plan of both of them, as one was much overgrown by bush, so I devoted the few hours at my disposal to making a careful plan of No. I. As will be seen from a glance at the plan the outer wall consists of a single curve, and this curve is most carefully executed on the outer face of the wall. I found that the centre of this curve was at G, and I measured the various radii shown on plan by stretching a measuring tape from G over the top of the wall to a plumb line suspended over the outer line of the base of the wall. With the exception of the irregularity between A and F, which is due to the rough nature of the ground, the curve is extremely accurately executed. The radius of the curve measures 54 feet, being 10 cubits $\times \pi$, which is equal to the circumference of the great tower at Zimbabwe, or to the diameter of the circular temple on the Lunde river.

The ends of the wall at E and F are rounded and well finished, and there is no evidence that it ever extended beyond these points; the extremely rocky nature of the ground behind G renders it almost certain that the temple never was a complete enclosure.

I found that I could not orient the temple with the compass as the magnetic needle was deflected by some mineral matter in the vicinity, so I used a sextant. Situated at G I observed the sun set a little to the left of A, and in about a line with the side of the doorway. This observation was made on July 9th last, and allowing for the sun's decrease in amplitude, due to its decrease in declination since the June solstice, I found that at that solstice it would set about 30 minutes of arc south of the centre of the doorway. This 30 minutes probably represents approximately the decrease in amplitude due to decrease in the obliquity of the ecliptic since the time when the temple was built, but its exact amount is too uncertain to enable us to found a date argument on it. It does, however, seem quite clear that it was intended that the line G A should point to the sun setting at the solstice, and we have here an indubitable instance of a doorway being placed between the centre of a curve and a solstitial sunset. It seems also fairly certain that the temple to which this doorway belongs was never a complete enclosure, and consisted mainly of a single curved wall forming a comparatively small arc of a circle.

The position of the doorway at B is not so easily explained. It may have been used to observe the setting of a star, or to mark an angle; for the various angles marked by E, B and F, and by the meridian seem to have had some meaning.

The second temple was obviously oriented in a similar way to the sun setting at the December solstice. The radius of its

curve seemed to be 169·3 feet; but, as I have said, I was unable to make an accurate plan of it. It seems certain that it also was never a complete enclosure.

Temple No. III is situated about 300 yards from the hospital in the camp of the Bechuanaland Border Police at Makloutsi. Like the preceding it stands on a little knoll of diorite, from which a clear view of the setting sun can be obtained. Here shapely blocks of granite have not been obtainable for building, and the builders, as in all these temples, have abstained from using a single block of hewn stone; so they have built this temple of small blocks of various shapes, and they have not been successful in preserving the regularity of the courses of masonry. The Makloutsi temple consists of two curves with a doorway between them (v. Plan III.) The ends of these walls are broken at B and C, and it is now impossible to say where they terminated, but it is fairly certain that this temple was never a complete enclosure.

It is impossible to deduce any evidence of solstitial orientation from what has yet been recovered of the plan, but it seems possible that the middle point of the curve A C, may have been aligned between the centre D and the sun rising at the northern solstice.

The radius of the curve A B is 34·34 feet, being 20 cubits, or twice the diameter of the great tower; and of A C 27 feet, or half the circumference of that tower— $10 \text{ cubits} \times \frac{\pi}{2}$.

Ruin No. IV consists of a few remains of walls on a little granite hill near the right bank of the Shashi river, just above its confluence with the Semokwe river. It is impossible to recover any plan of these walls.

Ruins Nos. V and VI are situated on two little kopjes among the Lipokole hills. They are both well built of little granite blocks like Zimbabwe, but they do not seem to be allied to it in plan. Yet they are superior in style to any Kaffir building which I have seen. One wall carries a dentelle decoration like that on the great tower, but it is not oriented to the sun. They are composed of a series of walls, generally straight, but sometimes curved, circling around small, but easily defended hills. These walls seem to represent several defensive lines. One wall across a little ravine must have been about 15 feet high and 10 feet thick.

Ruin No. VII is situated on Zabna hill, from which is obtained a clear view of the horizon. All that now remains are two curved lines of fallen stone with apparently a doorway between them. I had not leisure to lay bare the foundations and recover the plan, but from the position of the temple, and the

apparent nature of its plan, I have no doubt that it is a temple of the Zimbabwe people. On this same hill are also remains of another temple, and it was doubtless built by the same people.

No. VIII may be described in the same words as No. VII. None of these temples ever seem to have been complete enclosures.

No. IX, about three miles east of Semalali, is an interesting little temple, although now the walls are only about a foot high. It is another instance of two curved walls forming a temple. It stands on a little hill with a clear view of the horizon, and is built of rather shapeless little blocks. Wherever these temples occur, in positions where it has been impossible to get well shaped stones, more care has been taken in following the curves, and in this temple the curves are executed with great regularity, especially the curve CD , where the limit of error is not more than $1\frac{1}{2}$ inches, and even this error is wholly due to the irregular shapes of the stones. The radius of CD is 17.17 feet, or 10 cubits, and of DE 27 feet, or 10 cubits $\times \frac{\pi}{2}$

The centres A , B , and the doorway are all on the same meridian line. The ends of the walls at C and E are undetermined, but it seems quite clear that the temple was always open towards the north. No evidence remains of an observance of the solstices.

No. X stands about a mile southwards of the last described on a flat topped hill known as Linchwe le Komo, from which a distant view all around the horizon may be obtained. With the exception of Zimbabwe, it is the largest temple of the sort which I have seen in the country. The greater part of it has been built with extreme care of somewhat unpromising materials. Stones of several kinds have been used, as bits of trachytic lava and altered sandstones. Great care has been taken in selecting the stones, and the regularity of the courses is well preserved. The three principal curves are all extremely accurately made. The curve CD has a radius of 34.34 feet, or 20 cubits; while the curves DM and EH have both a radius of 54 feet, or 10 cubits $\times \pi$. The wall apparently ended about C , and there seems no doubt that the temple was always open towards the south. I could find no evidence of solstitial orientation.

I excavated two mounds situated about 150 feet to the south of the temple. They both yielded great quantities of what seemed to be wood ash with some partly burnt charcoal, bones of animals, fragments of coarse and fine pottery, a fragment of a plain ivory bracelet, and several of the little discs of pottery which seem to have represented the sun, and which we found in great

quantity at Zimbabwe. The fine pottery was made of well ground material, was well formed and carefully burnt; but it was all broken in small fragments.

No. XI stands on a rock on the left bank of the Shashi river about a mile above Fort Tuli. Most of the building as it now stands is obviously of Kaffir workmanship, and the Kaffirs there now have a story regarding its origin. But the lower portion of the southern wall is certainly of different workmanship from the rest, and it is built on a circular curve, having a radius of 54 feet. A doorway seems to have been placed between the centre of this curve and the sun rising at the Southern Solstice.

No. XII is some ruins near the Ipagi river which have suffered so much from rebuilding that it is impossible to make any regular plan of them. From some peculiarities in their appearance I fancy that here were some temples of the Zimbabwe style.

On many of the little hills along the banks of the Umsingwani river are remains of stone walls. Many of these were doubtless built by Kaffirs, and many are rebuildings of older structures.

In Nos. XIII, XIV and XV we have indubitable evidence of the Zimbabwe people's handiwork. In No. XIII the walls of older temples have been made to form part of the enclosing walls of Kaffir strongholds. D E is carefully built on a well drawn curve. It has its centre at F and a line from F passing midway between D and E will point to the sun setting at the southern solstice. B C is another well built curve with its centre at A. The radius of B C is 17·17 feet and of D E 27 feet, or equal to the diameter and semi-circumference of the great tower respectively: $(10 \text{ cubits and } 10 \text{ cubits} \times \frac{\pi}{2})$.

I revisited the temple on the Lundi river which we saw last journey, and in its neighbourhood I found remains of two others. This temple is one of the most complete which I have yet seen in this country, and I was glad that I could find time to make a complete plan of it. It stands on a little knoll about half a mile south of the waggon road and 300 yards east of the river. Like Zimbabwe it is built of little rectangular, naturally shaped blocks of granite which are laid in very regular level courses. Unlike Zimbabwe, the corners of the doorways are only slightly rounded, and inside the finely built wall is another wall built of coarse unshapely blocks, which are not laid in courses, but which are still somewhat carefully put together. From the fact that some of the stones of the outer wall rest on the inner wall, it seems probable that both walls were built at one time. I carefully measured the circumference of the temple and found it to be 169 feet $6\frac{1}{2}$ inches (after deducting 4 inches for the protuber-

ance $E F$) or almost exactly 17.17 feet $\times \pi^2$ (10 cubits $\times \pi^2$). I also found that at no point did the foundations of the temple diverge more than a few inches from a true circle.

The protuberance $E F$ resembles one shown at F in Plan X. Its curve has a radius of about 8 feet 6 inches. It is carefully constructed and is bounded at E and F by vertical lines in the masonry.

In our rough and hastily sketched plan made in April, 1891, we made the distance between the doorways too great. During our last visit we were able to fix the centre lines of the doorways, and to carefully measure the distance between them. This distance we found to be 60 feet $8\frac{1}{4}$ inches (after making our deduction for $E F$), and therefore the angle $N P M$ measures $128^\circ 51'$. In the latitude of the temple and with the present obliquity of the ecliptic the sun's azimuth when rising at the northern solstice is $64^\circ 48' 30''$, so that the angle $N P M$ is $46'$ less than double this angle. We took the bearing of the line $P N$ very carefully with a good prismatic compass several times in both directions and found it to be as nearly as we could make it true north and south. It would therefore seem that the arc $N E M$ was intended to face the sun when rising at the northern solstice, but there is this discrepancy of $46'$ or about $4\frac{1}{2}$ inches of shortness in the arc to account for. But if we assume a reasonable antiquity for the temple, we will have an increased obliquity in the ecliptic which will account for this $23'$ of difference in the sun's bearing on the horizon at the solstice. We have further evidence of this increased obliquity in the temple on the Lotsani river which has been described.

We made a careful examination of the disposition of the ornamentations on this temple, and found that neither the herring-bone nor the draught board pattern ever extended beyond the doorways. The top of the wall near both doorways is somewhat broken, but there is good reason to believe that the draught board pattern extended from within a short distance of one doorway to within a similar distance of the other, while the herring-bone started at the same point as the draught board near the northern doorway, and terminated about 18 inches to the north of E . Here its termination is clearly marked.

I revisited Zimbabwe and had the pleasure of seeing some of the gold beads, gold tacks, and thin sheet gold washed out of the surrounding soil. The quantity of gold thus found in the soil was surprising. The most interesting object obtained was a very small fragment of a red pigment on which was a decoration of the herring-bone kind in gilt; this was so extremely finely worked that to see all its details one had to use a magni-

ifying glass. This work can only have been done by people who had acquired great skill in goldsmith's work.

I was sorry to find the great temple so filled with a jungle of castor oil plants and other quick growing shrubs that it was impossible to make any measurements without first clearing the ground, and this I had not time to do. I made an observation to determine the bearing of the stone on the hill from the doorway of the great temple, and found that the west end of the stone bore 9 minutes east of north. Since our last visit Sir John Willoughby had made extensive excavations in the great temple and on some surrounding mounds, but he had been rather unfortunate in his selection of sites for excavation. I saw the considerable number of things which he had found, but none of them casts any fresh light on the builders, and they were all, with unimportant exceptions, duplicates of what we had already exhibited. His excavations do abundantly prove that there had been many successive periods of building at Zimbabwe, and that there is a deep accumulation of *débris* in the great temple.

From what I have said it will be seen that, along the 250 miles or so of road between the Lotsani and Lundi rivers, I have visited about 20 temples, or other remains of the people who built Zimbabwe. Quite possibly these are not all the remains that still exist along the narrow strip of country which I examined; but admitting that I have seen all within a mile on both sides of the road, and that the strip of country traversed is a fair sample, as regards ruins, of this part of Africa, it is evident that the number of ruins of this class in the whole country between the Zambesi and Limpopo rivers must be enormous. Besides, these existing remains do not represent all the temples which once stood in the country, for all over it one finds walls which are almost reduced to shapeless heaps of stones, but which occur in positions which Kaffirs would not seek to fortify, and where they would not care to build their huts, and many of these heaps of stones probably once formed temples of the Zimbabwe people. The great number of buildings of this sort which must once have existed in the country would indicate a numerous population of the builders, and the great extent of country over which they spread themselves would argue a prolonged residence.

The great number of the buildings is borne out by what I have seen in other parts of the country, and in some short excursions which I have made around Salisbury, I have seen the foundations of many more temples. Between here and Hartley Hills I found remains of two buildings, but I had nothing with me to enable me to make a plan of them. On a

little ridge about 20 miles E.N.E. of Salisbury, I also found some walls, and on a level space near the ridge the foundation of a circular enclosure with apparently two doorways. The circle seemed very true, but I had no instruments with which to measure it accurately. I paced its diameter and found it to be, as nearly as I could judge, the same as that of the temple on the Lundi river.

On Mount Hampden are many remains of stone walls and also signs of Kaffir habitation. I measured one complete circle and found its radius to be 20 cubits, or equal to that of curve A B on Plan III, or C D on Plan X. On some little hills about a mile from the left bank of the Gwiwi river, and on the road to the Mazoe river, I found remains of five temples, and those which I had time to measure fitted into our system. The ridge which forms the crown of the watershed between Salisbury and the Gwiwi river is an excellent position for observing the sun rising and setting on a distant horizon, and here these temples had existed in great numbers. I counted ten in a walk of about a mile, and some which I measured were built on the Zimbabwe plan. One circle had exactly the diameter of the great tower. All of them, however, require to be disencumbered of *débris* before accurate and complete plans can be made, and I was not able to undertake this work. Some showed evidence of solstitial orientation, and some did not. Near the Jesuit Station, which is a mile and a half from here, I also found remains of many temples. I measured three, and they all corresponded in measurement to other work of the Zimbabwe people. On a hill farther on I found four temples of the same sort, and one little crescent of rough stones carefully oriented to the sun rising at the northern solstice. In fact these temples are so numerous in this part of the country that one might safely undertake to find a hundred of them within ten miles of Salisbury.

To a casual observer the supposition that the Kaffirs had built all these temples might seem probable enough, and the appearance of many of the ruins at present would give colour to such a supposition, for the foundations of many of the temples are under walls of Kaffir building. These walls are extremely roughly built and only roughly follow the lines of the curves, but the original plan can generally be recovered by removing the Kaffir superstructure. What has happened is this. The Kaffirs are continually shifting the positions of their towns, and where they settle on a spot where there are remains of walls they pile up the fallen stones in order to form an enclosure which may serve them as a cattle pen or for other purpose. In parts of the country where the Kaffirs do not live the nature of the ruins is at once more obvious, and it is much easier to make

plans of the temples. Ruins I to X are in this condition. I do not fancy that anyone will affirm that any of the tribes now living anywhere near Mashonaland can ever have had even the small knowledge of geometry and astronomy which was necessary to the planning of these temples. But besides the method of their plans, the positions which they occupy is a preliminary guide as to whether any ruin may be Kaffir or not; for these buildings almost invariably command a view of the sun either rising or setting on a fairly distant horizon. The sites of Kaffir towns are always chosen, not for observing the sun, but with regard to their proximity to water, or good land, or for defensive purposes. These conditions the Zimbabwe builders disregard. They prefer to build on little gently sloping knolls which are hardly more easily defended than a position on the plain itself, and sometimes they build in very arid parts of the country where it is almost impossible to obtain water, as is witnessed by many of the temples between Makloutsie and Tuli.

I have throughout this paper used the word temple in a somewhat wide sense, and many of these buildings which consist of only a comparatively short arc of a circle can hardly be called temples in the ordinary meaning of the word. Many of them possibly had a resident body of priests attached to them, and may have been meeting places for the community which took part in the performance of religious ceremonies, but many others such as the oriented crescent which I mentioned, should rather be regarded as simply religious symbols of reverence erected by solar and phallic worshippers.

The difference in form of the temples in this part of Mashonaland, and of the southern temples near the Limpopo river, is worthy of notice. It is evident from eight of the temples which I examined that the prevailing southern type is a single wall built on one or more curves, but not forming a complete enclosure; whereas the northern temples are generally if not always complete enclosures, formed often of one curve. This would seem to show a slight difference in the cult, and the difference in cult may have indicated a difference in the principal industry of the people. Certainly there is a wide difference in the soil and geological formation of the two districts, for here the country is fairly fertile and is auriferous; but the country between Makloutsie and Tuli is certainly not fertile and has not yet been proved to be auriferous. If there was ever any doubt certainly recent discoveries at Zimbabwe seem to prove that its builders came there for gold, and yet we find temples of the same style in a country where there seems to be no gold. The only suggestion I can offer is that they went to the latter country for precious stones. The country there is generally composed of

freestone, traversed by trap dykes, and in the altered freestone occur crystallized quartz minerals of many kinds, and sometimes these are of considerable beauty. Many of the precious stones mentioned in the book of Revelations are found there.

I must protest against the supposition that these temples are of Phœnician origin, for certainly both in their plans and masonry they are quite unlike anything which we know of that is Phœnician. If the temples at Hagiar Kim and the Nuraghs of Sardinia have any connection with Zimbabwe, they are rather ignorantly constructed copies of the Zimbabwe style than the original type of that style. The Phœnicians attached to Pharaoh Necho's expedition may have admired Zimbabwe and tried to copy the style. I trust that Mr. Bent during his present visit to the Hadramaut may find buildings of the Zimbabwe type there, and so settle the question of the origin of the builders of these temples.

*Salisbury, Mashonaland,
December, 1893.*

Postscript.—Since making the above notes about three years ago, I have travelled much in Mashonaland and seen the remains of many other edifices of the Zimbabwe class. Most of these, however, were not of any considerable size. The fact that these ruins exist in such great numbers in that country, and that generally they are of small dimensions and often seem never to have been complete enclosures, indicate strongly that they were not temples in the ordinary meaning of the word, but simply religious symbols, analogous in their purpose to our crosses and wayside shrines, and that they were erected not as places of assembly for worship, but merely to betoken reverence to the objects of worship. This reverence is shown by the solstitial orientation of plain or decorated arcs of circles, or of doorways, and it also seems to have been expressed by the geometrical construction of the plans of the edifices. There is ample evidence in other records of ancient forms of worship to show that religious sentiment was frequently expressed by the orientation of religious edifices, and the less modern of some of our own churches illustrate this. That geometrical construction was also a feature of religious buildings is shown by some edifices in other countries, and the manner in which it was used by at least one race is clearly set forth in the ancient Brahminical Sulvasutras.

Regarding the geometrical construction of the Mashonaland ruins, I would refer to what I have written in a chapter of Mr. Bent's "*Ruined Cities of Mashonaland*," without reference to which the above notes will not be altogether intelligible. The

measurements of the ruins on which much of what I said there was based, have been amply confirmed by the measurements of many ruins which I have made since that book was written, and most of these measurements are given in the above notes. The plans of temples which I have drawn from these measurements seem to show that one of the main features in their geometrical construction was the determination of the lengths of the radii of the curves, and that the factors which determined these lengths were the ten cubit measure (or simple multiples of it), and the ratio of the circumference of a circle to its diameter. Had there been only a small number of examples of the apparent use of radii measured by these factors, the above assumption might be doubtful, and it might be supposed that the whole thing was a coincidence; but because the evidences of this construction are so numerous, it seems that there is hardly a possibility of error in the conclusion that the builders of the ancient Mashonaland temples had constructed the plans of their buildings in the manner supposed. It might also be assumed that because I have had a very large number of ruins from which to select, that those may have been rejected as of Kaffir origin, which did not agree with the above theory of construction. But against this assumption it should be noted that most of the ruins from which the measurements on which the theory rests have been obtained, show other features beside the geometrical construction such as oriented arcs and doorways, which clearly distinguish these ruins from Kaffir work, and connect them with the Zimbabwe builders.

Glasgow, 2nd May, 1896.

Mr. LEWIS hoped that, as the subject was of great and far-reaching importance, the Author would give them the fullest evidence in his possession as to the use of the structures he had described as temples. At first sight only one of the diagrams shown came up to anything like the ordinary idea of a temple, the others being mostly mere curved walls facing certain points. The evidence derived from so many facing in the same direction was of course very strong, but the great number of them in a small space might be held to be an objection to their use as temples. Exception had been taken on that ground to the use of the Aberdeenshire circles as temples, these latter were no doubt primarily sepulchral, but there was a very old and strong local tradition concerning them that they had also been places of heathen worship. He would be glad to know whether there was any evidence of burial in connection with any of the remains described by Mr. Swan. He understood that most of them faced not the rising but the setting sun. The most com-



TWO YOUNG MEN FROM THE WESTERN SHAN STATES.

plete appeared to have an opening to the north, which might be a survival of pole-star worship transplanted to the southern hemisphere (where it would be useless, like many other survivals) by a race going from the north. Many of the British circles had a well-marked reference to the north. The Great Zimbabwe appeared to him to present a considerable resemblance in plan to Hagiar Kim in Malta, where Dr. Inman had found evidence of phallic and solar worship (detailed in "Anthropologia"), but such similarity as there was might be due rather to a similarity of thought and civilisation than to a community of origin.

MARCH 10TH, 1896.

E. W. BRABOOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and confirmed.

Various presents were announced and thanks voted to the respective donors.

The elections of Messrs. C. J. PRAETORIUS and ROBERT ELLIOTT were announced.

Col. R. G. WOODTHORPE gave an account, illustrated by specimens and with the optical lantern, of the Shans and the Hill Tribes of the States on the Mekong.

SOME ACCOUNT OF THE SHANS AND HILL TRIBES OF THE STATES ON THE MEKONG. By Col. R. G. WOODTHORPE, C.B., R.E.

[WITH PLATE IV.]

I CANNOT, in this paper, introduce you to any hitherto entirely unknown peoples or countries. Many well known travellers and writers have been to this part of Indo-China, and have described the people they found there. I need only mention such great names as Garnier, Pavie, Lefevre, Pontalis, Prince Henri d'Orléans, Otto Ehlers, J. G. Scott, Lord Lamington, Captain G. J. Younghusband, &c., to show in what distinguished footsteps I tread. Still this corner of the world is not so generally known as it deserves to be, not only because

England and France have now become *limitrophes* there, but also because of the wonderful congeries of wild tribes, differing from each other completely, in manners, customs, and language, who make up the mass of the population of these hills. Nowhere else, perhaps, can be found such a variety of tribes, such a mixture of languages.

The Shan States under British protection form the easternmost portion of our Burmese possessions, and may be said to lie approximately between the 19th and 24th parallels of latitude and the 96th and 102nd of longitude. They do not, however, by any means cover the whole of the area included between these parallels, but, presenting a broad base towards the Irawadi, narrow down considerably towards the east, forming a rough triangle. To the west lie the great plains of Burma proper, traversed by the Irawadi. To the north and east we have the province of Yunan, with the Chinese Shan districts of Möng Lem and Keng Hung immediately on our borders. To the south are the Karen Hills and Siam.

These states present a remarkable variety of natural features. The country to the west of the Salween is a series of elevated plateaus—great rolling grassy downs separated by deep valleys and intersected by lofty parallel ranges, the general direction of which is north and south. These ranges, in contrast to the yellow downs, are beautifully wooded, and attain to great heights, some of the peaks rising to nearly 9,000 feet above sea level; the general elevation of the plateaus being from 3,000 to 5,000 feet. Along the valleys flow swift rivers, now through dark and narrow gorges, pent between mighty cliffs, now through alluvial hollows with terraced rice fields, among which they wind with many a curve. To the east of the Salween the country is much broken up; no clearly-defined range of mountains presents itself, but the eye wanders over a confused sea of forest-clad hills and narrow valleys, relieved here and there only by small oases till Keng Tung is reached, with its large plain, beyond which the mountains rise again, range upon range, in tangled masses to the Mekong. East of the Mekong similar features present themselves, flat fertile valleys or terraced uplands, lying amid intricate mazes of hills, the drainage system of which is the despair of the surveyor.

A striking feature in the Western Shan States is the Inlé Lake, on the eastern shores of which the military station of Fort Stedman stands. Fort Stedman was also formerly the principal civil station for the Southern Shan States, but the Civil portion has been moved to a healthier site at Taunggyi, some 2,000 feet higher, and Fort Stedman will probably soon be abandoned by the military also.

The Inlé Lake is a vast expanse of water, 13 miles long and about 4 miles wide at its upper end, but narrowing towards the south. It is nowhere very deep, and the bottom is overgrown with long and tangled weeds, which rise nearly to the surface. The lake dwellings of the Inthas, an amphibious tribe said to have been originally brought as slaves from the province of Tavoy, rise on piles out of the water in groups near the edge, and floating gardens, on which are grown tomatoes, water melons, gourds and the pan leaf vine, dot the surface of the lake around them. Many large villages are seen on either shore; monasteries and pagodas, built on the extremities of the spurs, running into the lake, are reflected in its placid depths.

The method of rowing adopted by the Inthas is peculiar. Men and women are equally expert. They stand, one at the bow, the other at the stern of the boat. The rower holds the paddle lightly in one hand to guide it, and balancing himself on one leg, he works the paddle with the other by hooking his foot round the upper portion of the blade. They complicate matters further by frequently carrying a spear in the hand not occupied with the paddle, with which they transfix any passing fish. Their dexterity with both spear and paddle is remarkable, and they supply all the bazaars in the neighbourhood with fish.

Mr. Pilcher tells us that the Shans, or "Tai" as they call themselves, are the most extensively diffused, and probably the most numerous of the Indo-Chinese races. Lapping the Burmese round from north-west, they are found from the borders of Manipur (if the people of that valley have not been indeed themselves modified by Shan blood), to the heart of Yunnan, and from the valley of Assam,¹ to Bangkok and Cambodia: everywhere Buddhists, everywhere to a considerable extent civilised, and everywhere speaking the same language, with little variation; a circumstance very remarkable amid the infinite variety of tongues that we find among the hill tribes in the closest proximity of location, and probable kindred throughout these regions. This substantial identity of language appears to indicate that the Shans had obtained at least their present degree of civilisation, and a probability of their having united in one polity, before their so wide dispersion and segregation. The traditions of the Siamese, as well as of the northern Shans, speak of an ancient and great kingdom held by this race in the north of the present Burmese Empire. The Siamese call themselves "Htai," or great Shans. Some fatal want of coherence has split the race into a great number of unconnected principalities, and the Kingdom of Siam is now perhaps, the only independent

¹ The Khamptis, mentioned by Prince Henri d'Orléans, are Shans.

Shan State in existence; all the others are subject, or tributary to Burma, China, or Siam.

Mr. Scott says the great difficulty about the study of the Tai language is that there are at least four different characters. The Western Shans use one very like the Burmese; the Siamese have a character of their own, which is very like Pali. The Shans called Lü have another character of their own, and to the north of Siam the Lao Shans have another. The inhabitants of Keng Tung are called "Hkön" (Kheun); those of the Hsip Hsaung Panna (Keng Hung) and adjoining districts, "Lü." Both, however, answer to the general name of "Tai." The alphabet of the Western Shans is founded on the Burmese: that of the Hkön and Lü, who use the same, is very complicated, and in its main features resembles the Siamese. The *spoken language* of all is the same, though there are great dialectic differences.

The Western Shans differ somewhat from their eastern neighbours in dress and architecture. The men's dress, a short jacket, and full trousers, is generally white, though on festive occasions coloured silk and velvet trousers are much worn, and the most fashionable shape is that which most nearly approaches a sack with holes at the corners for the feet to pass through. The Hkön men wear clothes of a similar shape, but either black or dark blue in colour. The women wear variegated turbans and striped petticoats, made like a sack, open at both ends, and fastened over the breasts and under the arms; a small jacket being worn over this. The Lü men wear coats and turbans similar to those of the Hkön, but their trousers are dark blue, with strips of different colours stitched on round the bottom, the colours generally being red, mauve, green and white.

The women's dress is very distinctive. The turban is folded across the head so as to give it a shape resembling exactly a "tea cosy," the material being black cotton, ornamented at the ends with gold thread; the gold ends are arranged diagonally across the front. The jacket is of black, or some bright colour, with an edging similar to that worn round the bottom of the men's trousers. It is short, with a stand-up collar, and folds across the breast, tying under the right arm. Their skirt is of more variegated hue than that of the Hkön women, having a broad hem of one colour, generally green, round the bottom. Large gilt or silver bossed pins are worn in the hair under the puggari.

They are cheerful, and generally pleasant-looking people, of middle height, and comparatively fair complexion. The fairest are the Lüs, of whom some of the women are decidedly pretty.

The construction of the houses on either side of the Salween

is much the same, except that in the west they are not raised so high above the ground as those in the east, and the latter are generally larger and more substantially built. In the Phongyi Kyaungs, or monasteries, a great difference is noticeable, those in the west following the lines of the Burmese architecture, but in the east Chinese influence is very marked.

The Keng Tung State, embracing most of the country between the Salween and the Mekong, is, from its size, population and geographical position, the most important, and as its capital presents all the features of interest, seen on a smaller scale, in all other places of any importance, I shall describe it in detail.

The plain of Keng Tung is about 10 miles long, and varies in width, its average breadth being about five miles. The huge spurs from the high ranges on either side break up, as they descend into the plain, into gentle undulations. To the north and east the plain is perfectly flat and covered with rice fields, intersected by irrigation channels; to the south are gently-swelling downs and low grassy hills, swampy hollows lying between. The town of Keng Tung covers some undulating ground on the western side of, and overlooking the plain. Its walls have a perimeter of some five miles. They follow the undulations of the ground, standing highest above the plains on the north, where a pagoda with a curious umbrella-like tree growing from its summit forms a striking landmark. The walls, which are somewhat ruinous, are crenelated and loopholed, and protected generally by a formidable ditch some 25 feet deep, and V-shaped—a very difficult object to negotiate at the best of times. Where the walls descend to the level of the plains the ditch disappears, but marshes cover this portion. There are several arched gateways, protected by brick and earth traverses; one to the south gives egress to the road leading to a fine large tree called "Execution tree," where, under its spreading branches, executions used to take place on the large market days. The prisoners were led through the crowds in the market, and given drink at the various liquor booths. A strong escort with bamboo ropes kept off the crowd. At the place of execution the name of the condemned man and his crime were read out by the official in charge of prisons, &c. (a court minister), and the slip of bamboo on which they had been written tossed over the man's head. He was then made to kneel down, with his arms tied tightly at the elbows behind his back, and was decapitated with a long knife. The head was not held. This is evidently similar to the Chinese method.

There is very little level ground within the walls of Keng Tung, and only the northern and eastern portion of the space enclosed is built over; and even this portion is somewhat over-

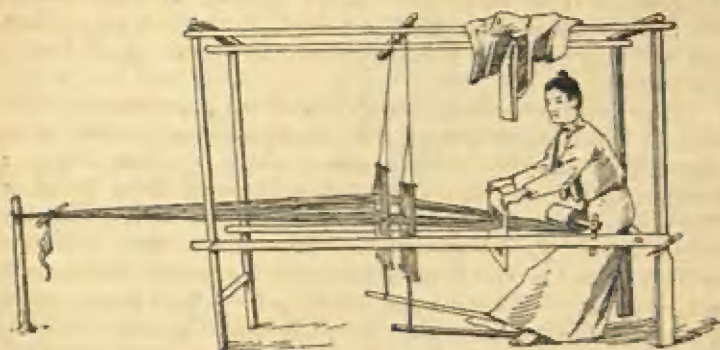
run with trees. There are several weedy swamps, the largest being Nong Tung, or the lake from which the town takes its name. The sawbwa's palace stands close by, and is a fine collection of teak buildings, well and solidly constructed and surrounded by a brick wall. There are from 1,500 to 2,000 houses inside the walls, and these are substantially built, some with brick basements, the upper walls of planks or bamboo matting, some with the side walls of the upper storey also of brick. They are roofed with small well-made tiles, which afford protection against fire. The monasteries and churches are very numerous, and each stands in its walled enclosure.

As I have said, the difference in style between these and the ordinary Burmese, or Western Shan, Phongyi Kyaungs, is very striking, and is due, Mr. Scott thinks, to Tartar influence. He says, "This is particularly noticeable in the massive gateway, which immediately suggests the *Paisang* of China." The resemblance is no doubt due to the fact that the brickwork was run up by Chinese or Shan-Chinese handicraftsmen. There is no similarity whatever to the steep-roofed, parti-coloured tiled gables of the Bangkok "Wats." The churches are adorned with elaborate carvings, mosaics of coloured and silvered glass, and frescoes. Each is built with a nave and two aisles; rows of lofty teak columns, painted red and gilded, support the roof, the timbers of which are also very ornate; the ornamentation is most elaborate above the high altar with its huge gilded figure of Buddha calmly meditating beneath its canopy of cut calico, which much resembles lace at a great height. Frequently there is an ambulatory behind the altar, and then we find the altar with a highly ornate reredos. In front of the altar is a table for offerings of flowers, and iron stands for wax tapers; a carved and gilt stand like a crucifix is supported by a wooden elephant; the arm of the cross carries a beautifully-embroidered crimson silk or satin banner, covering napkins used for dusting the sacred images. Tall handsome wooden pulpits, carved, painted, and decorated with mosaics, are conspicuous objects in the churches. The priests' apartments in the adjoining building are comfortable, the chief priest's being recognised by the handsome gilt and jewelled chests, in which are kept the sacred records; gay carpets and rugs cover the floor. Incidents in the life of Buddha, frescoed on the walls, are diversified by some advertiser's flaming idea of Her Gracious Majesty, Napoleon, or Wellington, the latest skirt dancer, or Phil May's inimitable coster cartoons, cut from illustrated papers presented by the members of our various missions, and much prized. The Dean of Keng Tung, whose church is the most elaborate, is a fine, portly, elderly man, of great presence

and unmistakably an ecclesiastical dignitary. He has travelled to India and Ceylon. His monastery is very wealthy, and he is said to be possessed of personal wealth, contrary to the ordinances of Buddha. The clergy in the Eastern Shan States are generally less orthodox than those in the Western States and Burma, who call them "Htu" or "imitation priests," and regard them much as the priests of the Church of Rome regard priests of the Church of England. The eastern Phongyis travel about in great state, wear yellow caps, and carry arms. Many allow their hair to grow; some even cultivate moustache and side whiskers, and look like the Evangelical clergy. I made many friends among the priests and their young scholars while painting in the churches.

Outside the walls of Keng Tung are many large and populous villages. To the east of the town, lying under the wall, is a large colony of the Shan Chinese. They have been settled there for some time, and have a large and handsome church of their own. The houses are built of bamboo, and their village is very dirty. They keep goats, ducks, fowls, pigs, and cows. They are good gardeners, and we obtained some very good vegetables there in the spring. They grow lettuce, cabbage, onions, radishes, pumpkins, cucumbers, beans, French beans, peas, yams, and several kinds of sweet potatoes. They do a good deal of trade, and Mr. Scott considers that they introduced the manufacture of tiles into Keng Tung, and that the pottery—plates, cups, bowls, jugs, teapots, spittoons, pagoda ornaments, &c.—which are so varied in kind and so cheap in Keng Tung, is mainly their work. There are a few shops in Keng Tung in which clothes, tinned milk, and matches are sold. The big bazaar, or market, is held—as elsewhere in the Shan States—every five days. On three of the other days small bazaars are held in different parts of the town. There is no bazaar anywhere on the fourth day. On the fifth day, the large market-place, with its lines of booths and stalls, is thronged with enormous crowds of people from the neighbouring villages and the surrounding hills. The quantity of goods displayed, and their variety, are very great. The vendors are Shan women and Chinese men. The articles on sale include English and Indian cotton goods and yarns, Manchester silks, handkerchiefs of the most startling patterns, aniline dyes, coloured paper, Japanese matches, pocket knives, needles, powder and caps, flowered rugs, &c. The butchers, who sell beef and pork, and the shoemakers are Chinamen. Chinese merchants also sell the huge straw hats with oiled silk coverings, which are made exclusively for the Shan market, raw silk, fur coats, iron pots, Chinese pipes and padlocks, also quicksilver and rock salt. These merchants

arrive in December, and, having disposed of their goods, make a trip or two to Moulmein, Rangoon, or Mandalay, returning with Manchester goods, which they sell off on the way up or in Keng Tung, and return home in May laden with cotton. Western Shans also come here to trade. They bring das, catch, and piece goods. They usually take back bullocks. There is a tendency on the part of some of these traders, principally well-to-do Taungthus, to settle down in Keng Tung, their wealth recommending them to the favour of the fair ladies of that place. Traders from Siam bring raw silk for sale, taking back opium from Mong Lem and the Wa States. The sawbwa and principal ministers invest their money in opium, which is considered the most paying article of trade. The country women bring to market excellent cheap oranges, bananas, plums, yams, beans, peas, onions, ground and water nuts, pressed water grass (to be eaten with curry), jaggery, cheap and fairly good tobacco, and shamshu. Silks are woven by women of the town, and considerable taste and skill are displayed in the patterns and blending of colour. Cotton cloths of good design and well woven are brought in for sale by the hill tribes.



MURSO WOMAN WEAVING A CLOTH.

The restaurants, where cooked food is sold, are numerous, and ocular evidence supports the idea that the trade in liquor is a large one. Fish, mahsheer, murrel, &c., are caught in the Nam Khün and Namhap, and are kept in little ponds for sale in the bazaar.

The Sawbwa of Keng Tung is assisted in his government of the State by sixteen ministers. These do not receive any settled salary, but receive a certain proportion of fines, taxes, &c., and are often very poor, and the daughter of the prime minister has a vegetable stall in the market. The state is divided into districts, each under a hpaya, or commissioner, with four or five

advisers, who are invested with certain magisterial, civil, and revenue powers. Some of these hpayas have the power of life and death, without reference to the sawbwa. Each district is subdivided into village circles under their own headsmen.

Gambling is universal in the Shan States; and on market days respectable-looking men may be seen seated in a booth, or some other shelter, selling tickets from little books for the lottery of the "thirty-six animals,"¹ a diagram of which hangs behind him to assist the investor in making his choice. In a central spot is a tall bamboo, from the top of which dangles a small box containing the name of the winning animal for the day. This is hauled down at a certain hour, and the winners declared. Other forms of gambling—odd and even, a rough kind of roulette, &c.—are also in full swing. Attempts are being made, with some success, in the Shan States, to reduce the excessive public gambling, but as the receipts from the licenses are very great, and in Keng Tung some are set apart to provide pin money for the queen and princesses, the reform must not be effected too violently.

In all fair-sized villages there is at least one doctor, and the druggist's stall is conspicuous in all bazaars. The methods of the Shan medical man have not been thoroughly investigated yet, but very many of their drugs simply appeal to the faith of the patient.

Crimes, theoretically punishable by death, are murder, dacoity, theft of valuable property; but, under ancient custom, every offence may be expiated by a money payment, unless, in case of murder, the murdered man's relations demand blood for blood. The price of an ordinary man or woman's life is Rs. 300, of a woman's body Rs. 80 (claimed in cases of adultery). A chief or high official is worth more, but in such case the death penalty is usually imposed. In cases of culprits who cannot pay, or whose relations cannot pay, death is looked upon as a fitting punishment even for petty thefts. Of course our influence is being used *pour changer tout cela*, but, so far, success has not been conspicuous. Relatives of criminals are held responsible for the latter's misdeeds, and in case of horse or cattle theft, or of dacoity, a whole village, or even small township, is laid under contribution, should the immediate relatives fail to pay the required compensation. Civil cases, divorce, inheritance, and the like, follow the laws of Menu, as in other Buddhist countries. Fees, in civil cases, are regulated by the rapacity of the judge, and are generally exorbitant.

In Keng Tung, if an animal is stolen, I am told the custom

¹ These are not living animals, but only the names of that number of different animals.

is to make the thief restore the animal plus two others, one of which goes to the officials. If money is paid instead, then the thief is fined the value of the animal, plus twice that amount, the officials again receiving a third of the total sum; in addition, the criminal has to pay about Rs. 150, divided between the Sawbwa, the heir apparent (Kyanime), and certain court officials. For adultery, the husband can claim Rs. 120, if he refuses to take back his wife; but if he takes her back, he only receives Rs. 60. Divorce is readily obtainable, but, except among young people of low rank, is comparatively rare. If the husband wishes to divorce his wife, he pays her Rs. 30, if the reverse the wife pays her husband Rs. 25. No compensation is paid in case of divorce by mutual consent. In all cases of divorce, the wife presents her husband with two wax candles, in token of dissolution of union. In case of divorce the property is divided according to the laws of Menu. The applicant for the divorce (when the desire is not mutual), or the person through whose fault the divorce is applied for, always loses considerably in the division.

The Shans are a law-abiding people, and loyalty to the families of their Sawbwaws is a conspicuous characteristic. A Shan of good birth is very proud of his family. Succession to chieftainships and minor offices, when hereditary, does not follow the laws of primogeniture; a brother would succeed in preference to a son. This would certainly happen if the latter was very young. Generally, while very particular as to family, a Shan believes in selecting the individual best suited for the office.

If a boy falls in love with a girl, he first finds out if she reciprocates his feelings for her, and then acquaints his parents, who approach the girl's parents on the subject. If they agree, the marriage is arranged, and the boy or his parents make presents of rupees, cloth, fowls and eggs to the girl and her parents. No great fuss is made over the actual ceremony, which varies from the simple arrangement of taking each other's word for it, to feasts lasting several days. Even then, the actual ceremony is a minor feature in the proceedings. The usual form among the Western Shans is for the couple to eat rice together out of the same dish in the presence of their relatives and the village elders. The bridegroom then declares that he marries her and will support her. In the East there is more ceremony on the wedding day, all relatives and friends are invited to a feast at the houses of the bride and bridegroom. The guests take some strings of split betel nuts as presents. Liquor flows freely. Early in the afternoon, the bridegroom is taken to the bride's house, accompanied by his relatives and friends. As the procession advances, it finds its way obstructed by ropes at various points, at each of which the bridegroom has

to pay toll. When the Governor of a district of Keng Tung married the Sawbwa's aunt, he had to pass twenty of these ropes in a distance of half a mile. The Sawbwa himself had one, and the royal ladies each had one. The bridegroom on this occasion was mulcted of about 70 rupees. The Sawbwa's sister demanded 20 Rs. to allow him to pass, but eventually accepted 15. Arrived at the bride's house, the bridegroom takes his seat beside her, their hands are tied together with a piece of string after they have eaten together, and an old man pronounces them married. The guests meanwhile amuse themselves by throwing rice rolled into balls at each other and at the happy couple, who are protected by the bridesmaids with rice sifters.

When a person dies, the corpse is washed and dressed in a new suit. Some money is put into the mouth as passage money to the next state, otherwise transmigration of the soul is hindered. Gold is placed in the mouths of those who have been well to do. Daily, till the funeral, the priests recite prayers over the deceased. On the day of the funeral, the corpse is carried out in a coffin much decorated with coloured paper and tinsel under a gaudy canopy, feet first, the deceased's eldest son preceding it with a naked sword in his hand to clear the way, which is supposed to be barred by spirits. The procession is not a melancholy one, the members performing dances as they go; presents for the officiating priests, yellow robes, handkerchiefs, umbrellas, &c., are also carried to the grave. Arrived there, the wife or wives and children, and brother's wife or wives all go three times in procession round the coffin, carrying two lighted candles, as a last sign of respect. The priests then recite a few prayers, and the body is buried. A rocket is sometimes fired off, and the mourners (!) separate. The Sawbwa must avoid passing a house in which there is a dead person, and no marriage or funeral processions may pass by the palace enclosure.

The Burmese and Shans have an idea that a man's spirit takes the form of a butterfly, which leaves him when he is asleep or unconscious. They have a great objection to arousing any one suddenly from sleep "for fear," as they say, "that his butterfly may not return in time." On the return of a family from a burial, old men tie up the wrists of each one to prevent the butterfly escaping. This string remains till it falls off, worn out. Priests and chiefs are burned, as being a more honourable treatment than burial. By Shan customary law, the personality of the deceased is divided among his relations at the obsequies.

It is said that when a woman dies pregnant, her soul passes into torment, and her husband has to enter a monastery and become a priest for a certain time to secure her release.

When a man wishes to proceed on a journey, the priests and astrologers name an auspicious day, and previous to his departure the intending traveller takes all his baggage with him and spends a couple of nights in a monastery to obtain a blessing on his journey. On the morning of his departure he lights a few candles before the altar. Should any accident occur in the early stages of his journey, it is relinquished. On his return from his journey, the traveller's wrists are bound with a string to prevent his butterfly wandering off again.

Religious ceremonies are observed, and feasts given on numerous occasions. Outside a village by the roadside, one frequently sees little canework trays with sides of plaintain stems, decorated with tasteful bamboo banners; on the trays are small clay models of men, buffaloes, fowls, pigs, and cows, four of each. Also small bricks representing offerings of gold and silver. This tray, with its contents, has taken part in a great ceremony for driving away a severe sickness from someone. On an appointed day this tray is taken in procession to the city or village gate; it is placed by the roadside. A fowl is there released, and guns are fired over it to scare away the sickness. If the fowl disappears into the jungle the patient will probably recover, if it turns back the case is looked upon as hopeless.

When a child is continually sick, its name is changed. A youth usually changes his name on entering a monastery, and this name frequently remains with him thereafter.

Like the Burmans, Shans believe in lucky days, and soothsayers are consulted to fix a day for any public undertaking. Their superstitions are many and various. Being Buddhists they are ashamed somewhat of worshipping "nats" (spirits). Buddhism gets more corrupt the further east one goes, and nat worship gains in strength. Buffaloes are openly sacrificed to the nats east of the Salween, a thing rarely seen in the west. Certain nats are only appeased by human sacrifice. The guardian spirit of one of the Salween ferries claims a victim every year—preferably a Chinaman. The nat saves trouble by capsizing a boat and securing his victim. The ferry is then safe for the rest of the year. Shans still believe in the efficacy of human sacrifice to procure a good harvest. They act on this belief, however, less than do the Taungthus, Inthas and Yangs. The manner nowadays is to poison someone at the State festival, held generally from March to May. The practice is discountenanced by the chiefs, Mr. Stirling says, and is probably dying out, but he has known more than one instance of it. The Burmese kings used to have victims buried alive at the gates of their capitals, Pagan, Amarapura and Mandalay, so that their spirits might watch over the city.

At a village on the borders of Siam, the population is almost entirely composed of persons with their families driven out from the neighbourhood of Chieng Mai, under suspicion of being possessed by evil spirits, and therefore being dangerous to their neighbours. The exiles seem to thrive and get on well together, the evil spirits not preying on each other, but few persons unhaunted venture to risk living amongst them.

Shans believe in witchcraft. Mr. Stirling has known instances of women (sometimes young women) being expelled from a state, and all the property of their relations confiscated for supposed dealings in the black art. Maung Nyo, in a letter lately received from Keng Tung, says: "Some days ago, while I was walking in the town, I heard a good deal of firing, and on inquiring the cause, was told that the house of a witch was being burned down by order of the Court. I at once went to the scene of the fire. The witch in question is supposed to have killed nine persons during the last two or three years; and the people have just discovered the fact; so the witch was driven out of her house, which was burned. While it was in flames many guns were fired off to drive away the witch's spirit, a familiar which might try to remain. The Shans believe that while a witch's house is being burned the adjacent houses will not catch fire, however windy it may be. In this case the adjacent houses were a little apart, and well soaked with rain, and no wind was blowing. No violence is said to have been committed on the witch, but her property was looted or confiscated."

Most of the tribes are spirit worshippers of all kinds; from ancestors to pure fetichism. This worship, which is co-existent with Buddhism all over the Shan States, is more prevalent in the north than in the south. In the north, pagodas and places of Buddhist worship are few, and, where they exist, insignificant, except when built by the Burmese. At one place visited by our political officer there was a spirit shrine much revered, or rather feared, while there was no pagoda, or only the mouldering remains of a small one. This seems due to a large admixture of La Wa, Kachin, Palaung and perhaps Chinese blood.

Rice is grown everywhere in the Shan States. There are two systems of cultivation, one on terraced and irrigated land, the other on the hill sides. The former is that adopted by the Shans. There are three crops; the first grown in dry weather on land altogether artificially irrigated by admirably constructed dams and water-wheels; the second on lands wetted by the first rise of the streams; the third and main crop during the rains. Very pretty little fenced-in gardens are common along the banks of streams flowing past villages.

The Shans use only buffaloes for ploughing. Western Shans eat little meat. In many states the slaughter of cattle is prohibited, owing to their scarcity, and pigs are little bred. East of the Salween, pigs are widely kept and slaughtered for sale. Probably well-to-do families get meat twice a week. A Shan, like a Burman, will eat anything, whether the animal has died a natural death, or has been killed by himself. Cases are known in which ponies that have died of *surra* have been eaten.

Only in a few districts, populous centres, has land a saleable value. Occupation and cultivation give a title, subject to permission to settle being first obtained. Rights are forfeited on emigration to another state. Land is often cultivated by farmers other than the owners. In such cases a rent is paid in kind, usually half-crops, after deducting amounts of seed sown, and hire of the plough cattle.

With the Shans, as with all savage people, the moon is the "measurer." The months consist of 30 and 29 days alternately. East of the Salween the calendar is always one day at least behind that followed in the West, which accords with the Burmese. All over Shan land the Burmese calendar is followed as to the new year, which begins about April. It is, however, apparent from the names of the months (which are numbered) that the old Shan year began about November.

In Captain Gordon's report on his last winter's survey work in the Myelat—that portion of the Southern Shan States lying west of Fort Stedman—he says there are over twenty different tribes, distinct in dress, customs, and often language. These tribes do not, as a rule, intermarry. They are unambitious and unenterprising, but cheerful and fond of amusements, and although constitutionally lazy, work hard enough to keep themselves in comfort. The wife does all the housework, and a large share of the outdoor work as well. So important a member of the household is she considered, that, in most of the States, a widower is exempt from all taxation. Captain Gordon also says this country is rich in minerals; lead ore is extensively mined in the Baw Saing State, where the ubiquitous Chinaman, who is always to the fore where money is to be made, holds the contract for melting lead and silver. The possession of this mineral wealth is not an unmixed benefit to the State, as the hills are so honeycombed with old mines that the people cannot keep cattle, grazing being impossible owing to these pitfalls. Coal of fair quantity is found in Pwehla, and copper and iron were both formerly mined for in the Myelat. Legya is now noted for its iron work.

Time fails to tell of all the various hill tribes to be met with in this interesting country. The principal are Kaw, Kui, Kun-

Loi, or Tai Loi, Miao, Muhsö, Palaung, Lanten, Taungthu, Wa, Yangsek, Yanglam, Yao-Yin. Of these the Taungthu, Yangsek, and Yanglam tribes are found among the Western Shans. The Palaungs are found all over the Shan States. The others live to the east of the Salween. The men generally wear the Shan dress, and only the women's dress enables one to determine the tribe. The Yangsek are considered to be allied to the Karens, but I believe have a language of their own. The women wear curious long coats, like sacks, with holes for the head and arms, with very short sleeves, with alternate white and red longitudinal stripes. The Palaungs are widely distributed. The approaches to their villages are always good, and the excellence of the roads in the tracts inhabited principally by them is noticeable. There is one large Palaung tract in the Keng Tung State, and in this tract lies the Samtao circle of villages, where the guns are made which are sold in Keng Tung. Till lately, these were of the long gas-pipe style, with flintlocks; now, Captain H. B. Walker, D.C.L.I., of the Indian Intelligence, who has done excellent work, who visited the Samtao villages, tells us they manufacture muzzle-loading percussion cap guns, rough though accurate copies of the Tower musket, which finds its way into every corner of the Burmese Empire. They also manufacture pistols of a Tower musket pattern. These Palaungs are Buddhists, and in some of their villages, very handsome little "wats" (i.e. churches) are to be found.

Crossing the Salween we meet the Muhsö, a tribe rather widely scattered over the hills in the western part of Keng Tung and the northern border of Siam, where Lord Lamington came across some of them. They are again subdivided into 16 tribes. They have come from China, and many are said to live there still. In complexion the Muhsös are fairer than the Shans. Their noses vary a good deal, some being straight, some very flat—oblique eyes are especially noticeable among the majority, and a Chinese cast of countenance decidedly prevails. They have a curious custom at their annual festival, which begins on the Chinese New Year's-day, towards the end of January, and lasts five days. The village is "Taboo" for that time. The paths to it are blocked by bamboo erections and symbols warning off the stranger, who, if he persists in entering the village, is kept there till the feast is over; everything he has, including his clothes, is taken away from him, and he is sent naked away. The Muhsö say that the spirits are displeased at the presence of a stranger. The spirits have a house in each Muhsö village, which is fenced off, and surrounded with ornamental posts. These are renewed at the festival. During the five days the

people dance, sing, play musical instruments, and fire off guns. The dance is a slow one, in a circle, each dancer being also a musician. They have two musical instruments; one, a gourd, in which several small bamboos are fixed, the sound produced being somewhat like a harmonium. I have heard, from a hill-top, the Muhsö wandering unseen in the jungle below, playing these instruments as they went; and the soft sweet low tones suggested the presence of wood nymphs. The other instrument resembles a jew's-harp, made of bamboo. Though strangers are not allowed into the village during the festival, the men of a large village came to my camp one night and gave me a great entertainment, the women coming as spectators.

The Kaw tribe is very numerous through the whole of the eastern portion of Keng Tung and in Keng Cheng. The men are taller than the average Shan, their features suggest the Chinese type, and they wear pigtailed tied up inside their puggis, and ornamented with small silver discs. They use the same musical instrument as the Muhsö, and their dance is similar. Mr. Scott graphically describes it thus: "A sort of figure which suggests the Highland fling performed by a man in the last stage of exhaustion." Of the women, Mr. Scott says: "They are very small, and wear a complicated dress which exposes portions of their person in rather unexpected places. They wear cloth leggings, and the married women have an exceedingly elaborate headdress made of bamboo, and hung round with festoons of seeds and shells."

The prettiest women's dress we saw was that of the Miao, a Chinese tribe with whom we first come in contact on our eastern borders. It consists of a jacket with an elaborately worked sailor collar, a full pleated petticoat and pretty apron, with a neat grey puggri.

I cannot close without recording my indebtedness to Mr. G. C. B. Stirling, Assistant Commissioner to the Shan States, Maung Nyo, assistant political officer at Keng Tung, a very intelligent and well-informed young Burman, and Mundhi Abdul Rahim, sub-surveyor, a most excellent assistant, who manages to ingratiate himself with all the wild tribes among whom he has to work. He is not, however, singular in this respect, my two old friends and assistant sub-surveyors Ramsabad and Mahomed Hosein also displaying considerable tact and judgment in dealing with these hill people.

MARCH 31ST, 1896.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

Various presents were announced and thanks voted to the respective donors.

The following papers were read:—

"Customs and Superstitions in the Highlands of Central Japan." By the Rev. WALTER WESTON, M.A. Illustrated with the Optical Lantern.

"Notes on the Andamanese." By M. V. PORTMAN, Esq. (See vol. xxv, p. 361.)

"Rock-cut Sepulchral Chambers in Malabar." By F. FAWCETT, Esq. (See vol. xxv, p. 371.)

CUSTOMS and SUPERSTITIONS in the HIGHLANDS of CENTRAL JAPAN. By the Rev. WALTER WESTON, M.A., F.R.G.S., Late British Chaplain, Kobe, Japan. [*Abstract.*]

DURING a course of six years' residence in Japan, Mr. Weston made several journeys to the great range of mountains in the centre of the country which is known as the Shinano-Hida range, and under the above title gave an account of some of the customs and superstitions of the people of that alpine region.

The most important of these are:—

1. *Their curious beliefs respecting weather forecasts.*—For instance, amongst the signs of clear weather are the following circumstances: When a dog comes out of his usual shelter to sleep in an exposed place; when an echo is heard to the pigeon's coo; when the *tombi* (kite) cries in the evening; when the charred soot on the wick of the *andon* (native paper lamp) is red; when the rainbow spans the east. Signs of rain are seen: when the earth-worm crawls out of the earth; when the cocks go to roost earlier than usual; when the moon looks low; and when the crow (the Japanese bird of love) washes himself in the water, you may confidently count on rain the very next

day. Signs of approaching wind are : when the stars seem to waver in their places ; when ravens croak together in unusually large numbers ; and when the murmur of the river is unusually loud.

2. *The practices followed in praying for rain.*—After a prolonged drought a party of hardy hunters, usually five or six in number, are sent as a deputation to the god supposed to dwell on the summit of *Jonendake*, one of the most imposing peaks in the whole chain. Armed with guns and primed with *saké* (rice beer), they climb to the top of the mountain and proceed to kindle a fire.

By discharging their guns, rolling masses of rock down the cliffs and otherwise making a din, they endeavour to attract the attention of the spirit of the place to their prayers. By the noise and the flames they intend a mimic representation of the storm they are seeking, and the practice may be classed with those commonly known to folk-lorists as "sympathetic magic." The hunters who told me of the custom when I was myself on the summit assured me that rain always comes within a few days after the ceremony. In another district a party of villagers go in solemn procession to the bed of a mountain stream. They are headed by a priest, who leads a black dog destined for sacrifice. Arrived at the selected spot, the dog is tethered to a stone, and forthwith becomes the universal target for the bullets, arrows and other missiles discharged by the assembled throng. As soon as the poor beast's life-blood is seen to stain the rocks, the peasants throw down their weapons and lift up their voices in supplication to the *genius loci*, begging him to behold this defilement of his sacred precincts and to cleanse it in an immediate downpour of rain. In olden times it was the custom to use a horse, instead of a dog, as the offering. If rain was sought for, the colour of the animal must always be black, typical of the appearance of the rain-clouds desired. If fine weather was needed, the sacrifice must be one of spotless white.

3. *Their consultations of the spirits of the mountains.*—On Ontake, the southernmost giant of the Japanese Alps, the ceremony is annually practised by bands of pilgrims. Its name is *Kamioroshi*, or "bringing down the gods," and it is practised by a number of pilgrims, from two or three to a dozen or so, under the guidance of a leader called the *sendachi*. Clothed in white garments, indicative of the purity of heart they desire, they ascend to the mountain-top. Here they believe there dwell beneficent spirits, who are ready, if approached with due fasting and sincerity of heart, to hear and to grant the petitions of the needy. The leader who is called *sendachi* seats himself on the ground facing the rest, who are also seated in Indian file.

The person next in front of the *sendachi* is called *nakaza*, or "medium," for it is he who acts as the channel of communication between the pilgrims and the spirits they desire to interview. The medium then takes between the palms of his outstretched hands a *gohei*. This is a stick of plain white wood with cut paper hanging from the top, and it is supposed, in Shinto temples, where it is always seen, to serve as a sort of seat for the presiding spirit of the place. With the *gohei* tightly held in his grasp, amidst the prayers and incantations of the pilgrim band, the medium throws himself into a sort of trance. His face turns a livid hue, his limbs grow stiff and rigid in catalepsy, but how it is done only the initiated, like himself, really understand. Whilst in this state he is supposed to have lost his own personality, which is replaced by that of some god or other that has come to answer the questions of the worshippers. These are put by the *sendachi*, who acts as a master of ceremonies, and replies are given with orthodox oracular vagueness. Sometimes information is wanted about absent friends, future business prospects, the best means of curing a sickness, or the state of the weather for the next few days.

When all have been duly answered by the medium, in an unnaturally hollow voice, the *gohei* stick is suddenly jerked up in the air. This means that the god has now ascended, and that the *séance* is over. Prayers are again offered, with thanksgiving for the interview vouchsafed, and then nothing remains but to pound the body and to knead the limbs of the medium till they resume their normal flexibility.

Investigations prove it to be nothing less than a strange survival of one of those forms of Hindu mysticism practised by the sect called the *Yogacarya*, which, after first finding their way in China, were introduced into Japan early in the ninth century.

The paper was illustrated with a series of lantern slides of unusual excellence.

APRIL 14TH, 1896.

E. W. BEABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The election of Mr. R. R. MARETT was announced.

The following papers were read :—

"On the Asiatic Element of the Tribes of Southern Mexico." By OSBERT H. HOWARTH, Esq., C.E., F.R.G.S. Illustrated by exhibits and with Optical Lantern.

"Unusual forms of Burial by People of East Borneo." By C. V. CREAGH, Esq.

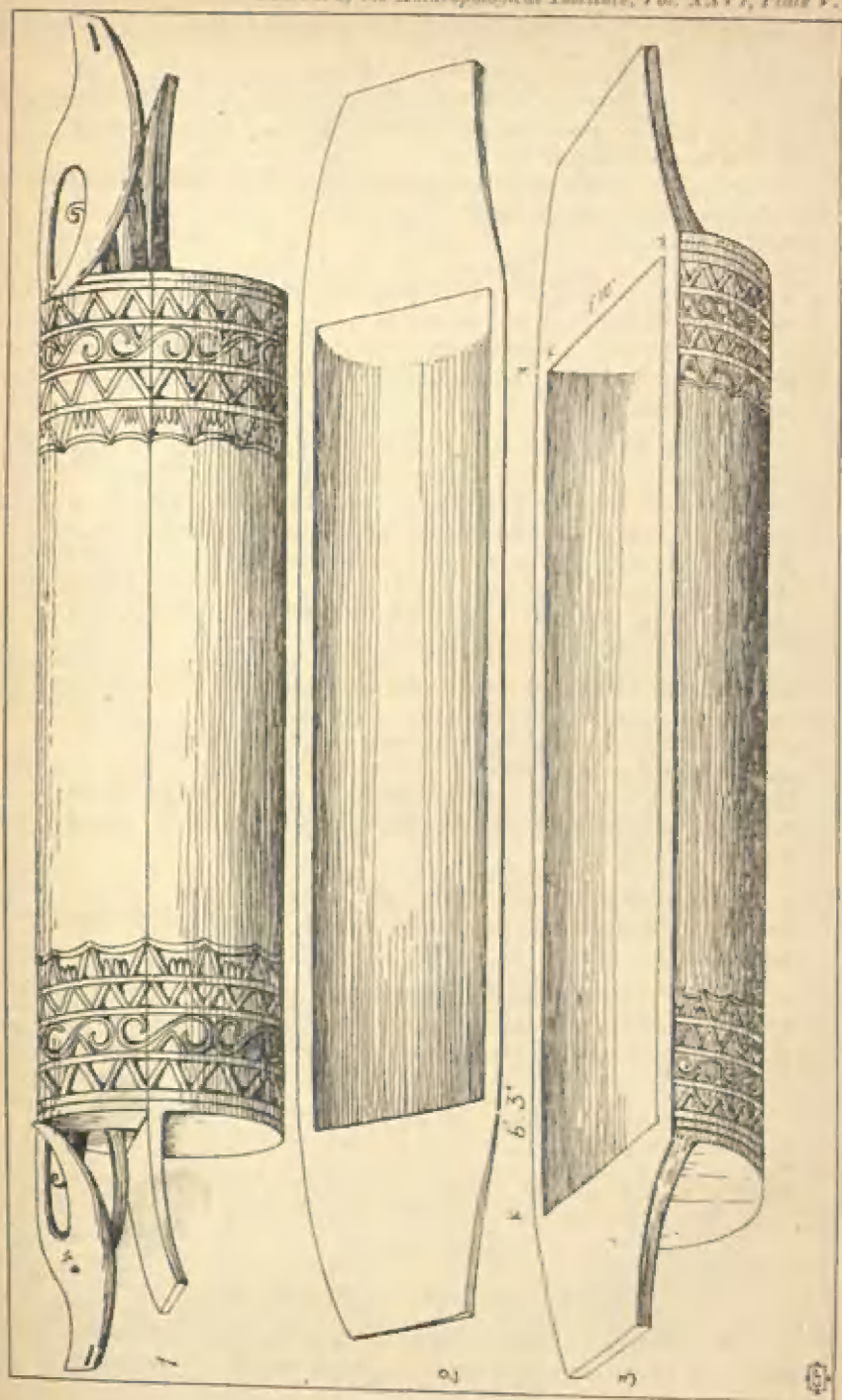
"The Cave Dwellers of Perak." By L. WRAY, Jun., Esq.

MR. OSBERT H. HOWARTH'S paper on "The Asiatic element of the Tribes of Southern Mexico," urged the consideration of the view that ancient Mexican culture migrated from Asia, possibly from an Egyptian source. Tradition in modern Mexico still pointed westward, and there had existed a trading communication of some regularity between Japan and Acapulco before the Spanish Conquest. Not only in the larger centres of population, but in the most remote spots could the prevalence of Asiatic types be remarked. This was especially the case in Oaxaca, Chiapas, and Tehuantepec. Moreover, both custom and structural art, he contended, pointed to similar conclusions, and these were reinforced by innumerable minor facts obtruding themselves upon the notice of the attentive observer upon the spot. True, these facts were insignificant if taken singly; but taken together, he ventured to ascribe to them considerable importance. "In the face of these combined evidences from several Asiatic sources," he continued, "it seems to me an extraordinary and unnecessary strain upon probability to assume either that Mexican art was a reinvention, or that it crossed the Atlantic Ocean on its way to the scene of Central American development."

Quoting Professor Petrie's opinion that reinvention in decorative and structural art is far rarer than copying, and contesting the probability of autochthonous growth, Mr. Howarth concluded by remarking that material for testing contending theories was still more abundant than was generally realised, and by expressing the hope that extensive researches might be set on foot before the new broom of modern civilisation had swept away the dust of ages for ever.

The paper was illustrated by a large number of specimens of Mexican art, including two pictographs, as well as by the optical lantern.

Professor E. B. TYLOR had examined the objects exhibited by Mr. Howarth with very great interest, and considered most



of them to be specimens of genuine Mexican art. In many examples, especially in the case of the pictographs before them, the line of demarcation between the indigenous and the Spanish styles was very hard to draw. He thought that it was premature to form far-reaching theories with regard to the origin of Mexican civilisation; the more immediate links in the chain would occupy investigators for a long time to come. Certainly the ancient Aztecs were found in possession of inventions which it seemed difficult to attribute entirely to their own powers of discovery; but the whole question must for the present remain *sub judice*.

Mr. C. H. READ drew attention to the necessity of carefully distinguishing between imitations and forgeries especially in dealing with a country like Mexico. An imitation might be a genuine instance of native style, and consequently possess a value of its own. A forgery on the other hand usually betrayed itself by the presence of inharmonious and incongruous elements out of keeping with the style which it aspired to represent, and was consequently worthless.

Sir HENRY HOWORTH pointed out that we should discriminate between migrations of culture and migrations of race. Culture might travel both rapidly and to a surprising distance; the movements of peoples were far slower and far more difficult to trace. For this reason, amongst many others, arguments drawn from racial similarity should be examined with very great caution.

Mr. GOWLAND doubted any regular communication between Japan and Mexico. At any rate Japanese literature was silent on the subject.

Mr. H. BALFOUR believed that a musical instrument exhibited by Mr. Howarth must have been introduced into Mexico through the medium of negro slaves. It was of distinctly African type.

On UNUSUAL FORMS of BURIAL by PEOPLE of the EAST COAST of BORNEO. By C. V. CREAGH, Esq.

[WITH PLATE V.]

EXTRACT from DIARY for MARCH, 1895.

"March 13th.—Visited some caves in a limestone hill on the left bank of the river near the Batu Puteh estate. These caves

were used as burial places by a former race of inhabitants of whom none of the present settlers or traders on the Kinabatangan could give me any information. The entrance to the upper cave (being in the face of an almost perpendicular rock at about 70 or 80 feet from the ground) is somewhat difficult to reach. It contains about 40 bilian (= ironwood) coffins, artistically carved with figures of buffaloes, crocodiles, lizards, and snakes, containing skeletons of men, women, and children; and also sumpitans, spears, and articles of Chinese and other pottery, with brass ornaments of native and foreign workmanship. The relics appear to me to be of Javanese origin, but there is no tradition on the river of settlers of this nationality. The carvings and scroll work on some of the coffins are superior to those now executed by native workmen."

The above extract from my diary refers to some caves in a limestone hill on the left bank of the Kinabatangan River, in British Borneo. This hill, which is called Batu Putih (white rock) by the natives, is situated in a large forest of bilian and other valuable timber, at a distance of about a mile from the river, and about two miles below the Batu Putih tobacco estate.

The caves appear to have been formed by the action of water on the limestone rock, but I saw no stalagmites or stalactites in any of them. Those near the foot of the hill contain several bilian coffins of rude workmanship, and quantities of human bones. These lower caves appear to have been frequently visited and ransacked by natives. Most of the coffins were uncovered and empty, and the bones strewn over the surface of a brown guano deposit with which the caves are floored, formed by the droppings of innumerable bats, which cling to the roofs and walls, and flew out in clouds on our approach. I have no very distinct recollection of the form or size of these caves, but I think none of them exceeds 20 or 30 yards in length; most of them are narrow and irregular, and in one instance I noticed what appeared to be the remains of a bilian coffin, placed in a mere cleft in the face of the rock about 15 feet long.

The existence of the upper cave was not generally known until about twelve months ago, and I believe Messrs. Shaw and Breitag, who conducted me to it last March, were the first Europeans to visit it. It consists of two or three irregular chambers, connected by short passages, and is situated about 80 feet from the ground. In the largest chamber, which is about 60 feet long by 30 or 40 feet wide, I counted 40 bilian coffins of men, women, and children, most of which were elaborately carved. Some of them were arranged in tiers one above another, while others

were placed separately on the floor of the cavern. In some instances the lids (which were only kept in place by their own weight) had been removed, disclosing the apparently complete skeletons of men, women, and children in perfect preservation. I enclose a copy of a sketch, which I made in my note book at the time of one of these coffins, which contained the skeleton of a male adult, and I noticed that most if not all of those similarly ornamented with the protruding heads of buffaloes or cows, contained male skeletons, while figures of snakes, lizards, and crocodiles appeared to be used for the decoration of those of the women and children. None of the relics in the upper cave showed much evidence of decay; the hair as well as the bones of the skeletons, and the woodwork of the coffins, being in many instances in a remarkably sound state of preservation. Most of the coffins contained fragments of common Chinese porcelain and other earthenware vessels, as well as the spears and sumpitans (blow tubes) of the men, and the brass ornaments of the women and children. The latter consisted chiefly of wire bracelets and armlets similar to those worn by the natives of the interior, but brass tiaras of Javanese or other foreign workmanship imparted a singularly ghastly appearance to some of the female skeletons, the hair on which was still kept in place by these ornaments.

Although Mr. Breitag, who accompanied me, had provided a scaling ladder for the purpose, it was not without some difficulty that we reached the entrance of the cave, as the cliff up which we clambered, was almost perpendicular, and in one place slightly overhanging. We were at a loss to conjecture how the coffins had been brought there, as some of them were so large and ponderous that at least four natives would be required to raise them. Opposite the entrance of the cave there is another opening, about ten feet high, and six or seven feet wide, from which there is a sheer fall of some 70 or 80 feet to the ground, and it was suggested at the time that the coffins and their contents must have been hauled up to this aperture by means of ropes, from the base of the rock.

But from information subsequently given to me by Rajah Tuah, an Ilanun chief in Darvel Bay, corroborated by the statement of another native chief to Mr. Cook, in Sandakan, there is reason to believe that the caves were formerly reached by means of a spiral or zigzag pathway cut in the face of the rock, all traces of which have now disappeared.

Rajah Tuah informed me that his own people, and several other tribes of the East Coast formerly practised this mode of burial, and he showed me the remains of a bilian coffin in one of the Madai caves in Darvel Bay, where edible birds' nests are

now regularly collected, which caves he said had been used for a like purpose in the old days.

With the approval of the Kinabatangan chiefs (who assured me that I might do so without wounding the susceptibilities of any of the present inhabitants) I authorised the removal of one of the Batu Puteh coffins, with its contents, to the Sandakan Museum. But on subsequently learning that this method of disposing of their dead was probably practised by some of the river tribes up to the beginning of the present century, and that the relics may possibly still be held in veneration by some of the interior tribes, or those of the South-East Coast, I took steps to preserve the remainder of them intact.

From the superior workmanship of most of the coffins, ornaments, and arms, deposited there, it seems probable that the upper cave was used exclusively for the interment of persons of rank.

The CAVE DWELLERS of PERAK. By L. WRAY, JR., M.I.E.E.,
F.Z.S., Curator Perak Museum and State Geologist.

As far as the writer has been able to ascertain, the only published account of explorations of cave deposits in Malaya is that describing those carried out by Mr. A. Hart Everett in Sarawak, Borneo, between the years 1878 and 1879. The Royal Society and the British Association voted £50 each, and £200 was contributed from private sources towards the expenses of the investigation, which was carried on under the auspices of a committee appointed by the British Association, consisting of Mr. John Evans, Sir John Lubbock, Major-General Lane-Fox, Mr. George Busk, Professor W. Boyd Dawkins, Mr. Pengelly and Mr. A. W. Franks.

Mr. Everett examined some 20 caves in all, but the results obtained were stated to be of no "special interest, either from an anthropological or a geological point of view." "The animal remains discovered" were all "of recent species, the human bones are probably of no very great antiquity, and none of the few objects of human manufacture which have been found can be regarded as of palæolithic age."

One small V-shaped fragment of stone, seemingly artificial, was found, and a few chips of quartz, which might have been produced by human hands. There would appear to be little evidence that the caves examined were ever inhabited for long periods by human beings. The top layers seem in some caves

to have contained remains of recent date, but the lower layers appear to have been very barren.

The limestone hills in which these caves are situated, are stated by Mr. Everett to be substantially identical with those of the Malay Peninsula, and the caves which he excavated were regular caves in the ordinary sense of the term. Now it has been found in Perak that the deposits in similar caverns are also practically free of evidences of human habitation, but that the caves known as "rock shelters," that is shelters formed by an overhanging rocky cliff, are full of vast accumulations of shells, bones, charcoal, burnt earth, and other remains, clearly pointing to prolonged human occupation. It is quite possible that the "rock shelters" of Borneo have also served as dwellings in pre-historic times, for as far as can be gathered from the published reports of the investigation, this class of cave was not examined.

To come now to the cave dwellings of Perak. As has already been said, the caves which have been inhabited are those which are formed by the overhanging of the cliffs, and not those caverns which are hollowed out in the rock. The same class of cave was inhabited by many of the cave dwellers of Europe, and have yielded rich stores of archaeological specimens. Rock shelters were also inhabited by the early New Zealanders. It was in some of these caves that the remains of the extinct gigantic wingless bird—the Moa—were discovered, with those of man.

In places, the way in which these overhanging cliffs have been formed is apparent, and they are even now being hollowed out by the action of rivers. In Upper Perak a very interesting example is to be seen at the base of Gunong Sonah. The Perak River has eaten into the hill, to the extent of some 20 feet or more, and when the river is not in flood, a boat can be taken right along under the overhanging base of the almost perpendicular side of the hill. When the river shifts its course a little, as in the natural sequence of events it is sure to do, this large cave will form an excellent camping ground for a large number of persons. This is the history of almost all these caves. Another very good example is to be seen on the face of the limestone hills between Ipoh and Sungei Raiar, in Kinta. The floor of it is now some 20 feet above the present level of the ground, and it extends for a length of over half a mile. At the time when the stream was sculpturing this terraced cave out of the rock face of the hill, the level of the valley must have been some 30 feet higher than it now is. This lowering of the valley represents in a wide valley like the Kinta, a period of very many thousands of years. Some of the cave dwellings

are at considerably higher levels than this, and are consequently of greater antiquity.

The first time the writer noticed evidences of the ancient human habitation of these caves was in the year 1880, in the western end of the limestone hill at Gapis, called Gunong Pondok. Here shell and bone stalagmites were found of considerable thickness. Since then similar signs have been found in nearly every limestone hill that has been carefully examined.

In 1886, a cave in a limestone hill near Ipoh, in Kinta, known as Gunong Cheroh, was visited. This cave is some 40 feet above the level of the Kinta River, which passes close by the foot of it. The cave is a rock shelter, evidently cut out by the action of the river in past times. Near by are some large caverns, which are now well known and often visited. Some pits were sunk in these large caves and except on the surface, where there was some recent Malayan pottery, ashes, &c., nothing was found but a few small bones of bats and birds. The earth was mostly a stiff yellow clay. In the rock shelters, however, were found vast quantities of fresh-water shells, both univalves and bivalves. Land shells were also present in considerable numbers. Nearly all the univalves had had their points broken off so that the animal might be easily extracted. Amongst the shells were numbers of bones, all the larger of which had been broken to get at the marrow, and many of them were more or less burnt. Pieces of burnt earth and charcoal were also of frequent occurrence throughout the material composing the floor of the cave. The most striking feature, however, was the extraordinary number of shells. In places they formed a layer over 12 feet in thickness. Portions of this layer were composed of beds of stalagmite, that is to say, the shells and bones cemented together with carbonate of lime. Some of these layers of conglomerate are as much as five feet in thickness. The present floor of this cave is some six to eight feet lower than it has been at a previous period. This is clearly shown by some masses of shell and bone conglomerate sticking on to the back wall of the shelter at that height above the present level.

In one place a curious thing is to be seen; an immense stalactite hangs from the roof, and at a height of some eight feet from the ground is a large flat mass of the shell conglomerate attached to and suspended in mid air by it. The floor level having fallen, the stalactite has gone on forming again below the layer of conglomerate.

About 18 inches beneath the existing surface of the floor there was found a portion of a mealing stone, and a short way from it the stone that had been used as the muller. The former

is of granite, about $8\frac{1}{2}$ inches in diameter and $2\frac{1}{2}$ inches thick. It is undressed, having probably been found in the bed of a river. The muller is $3\frac{1}{2}$ inches long and $2\frac{1}{2}$ inches in diameter. It is also of hard granite, and has been originally obtained from a river bed. The mealing stone has been used on both sides, and is worn quite thin in the middle, being reduced to one inch in thickness. A second mealing stone was found in December, 1895, in an adjoining cave, at a depth of about $2\frac{1}{2}$ feet from the surface. This is also worn on both sides to a very considerable extent, but is much thicker than the previously found one and is quite perfect. The name gives rather a wrong impression of the purposes to which such things are applied in the East. This implement is not used for grinding grain, and its presence does not imply agriculture in any form. The Malay equivalent is made of a flat slab of wood, with a grinder of cocoanut shell, and is called Sankalan. It is used for grinding up chillies, ginger, turmeric and other things, preparatory to cooking or eating them raw. Stones ones are used in India, and are the common curry-stones of our kitchens in the East. The Sakais also use rude wooden sankalans; not unfrequently part of the joint of a bamboo is used for the purpose when they are travelling in the jungle. In this they grind up their salt, chillies, and other flavouring to eat with their rice, which they boil in a joint of bamboo. Pounding stones, mostly of hard quartz, and more or less round or egg-shaped, have been found in several of the caves. These bear marks on them clearly showing the use to which they have been put.

In the year 1891, further excavations were made in this cave, and two human skeletons were dug up. They were of adults, and were lying close together. The positions were similar, both skeletons being on their sides, with their legs drawn up, but not so close to the body as to suggest their having been bound in that position. The teeth were not filed or artificially ground down, and some Malays who were present when they were exhumed, said that they could not have been Malayan. The inference was drawn from this interment, that the bodies had been allowed to remain in the positions in which they had died, and that they had been simply covered over with the earth of the cave without any grave having been dug. Probably it was a case of epidemic disease—cholera, small-pox, or something of that kind—which would account for two almost simultaneous deaths.

The bones were very soft and much broken up, but still in their proper anatomical positions. The crushing of the bones was undoubtedly due to the trampling of elephants, as this cave had been much frequented by them for a long series of years.

Parts of the roof and sides are perfectly polished by these animals having been accustomed to rub themselves against the marble rock. The bones were decidedly small, but they were in such a friable condition that it was impossible to dig them out in an unbroken state, so unfortunately not much more can be said about them. Some short way above these skeletons was a well-defined hearth, and over all had, at a previous time, been a bed of about four feet of hard shell and bone stalagmite. A careful search was made for implements near the bodies, but nothing was found.

The other bones found in the cave, were of many different animals and fish, wild pig, and deer being the most common. No bones bearing traces of human workmanship were found in this or any other cave, but all the larger bones had been broken, and many of them more or less burned. One bone bears teeth marks on it, apparently having been gnawed by a dog, and it may perhaps have been the work of a domesticated animal.

The shells were all of recent species, belonging to the following genera:—*Unio*, *Melania*, *Paludina*, *Ampularia*, *Hybocistis*, *Cyclophorus*, *Bulinus*, &c.

There was also found in this cave three valves of a marine bivalve—a species of *Cyrena* which is very common in the mangrove swamps of the sea-coast. Mr. Cecil Wray sent to the Perak Museum a piece of stalagmite containing another valve of the same species of mollusc, which had been obtained by the late Mr. William Cameron, from a cave in a hill near Kapayong, in Kinta, while another sea-shell of a different species was found at Gunong Pondok near Gapis.

The presence of these sea-shells is evidence that there was intercourse of some sort between the dwellers in the caves and the inhabitants of the sea coast; or, what is more probable, when the conditions of savage life are taken into account, the cave dwellers were themselves in the habit of making periodical visits to the coast, and on their return brought back a few sea-shells. This latter view of the case receives considerable support from the occurrence of so-called "kitchen middens" near the coast. Mention is made of one of these by Dr. J. G. Koenig in his "Journal of a Voyage from India to Siam and Malacca in 1779," though it is evident he had no idea of the modern interpretation of these deposits of shells. He says, when describing his visit to the harbour of Kedah, "The country is very low everywhere and consists of a very muddy soil, intersected by yet muddier canals . . . I could see that the soil underneath the mud consists only of *cardia*. . . . A few steps further on I saw some Christian graves near the path. I could see from the thrown up

earth, that the soil consisted only of cardia, and was little intermixed with clay." From which it would appear that the small village he saw at the mouth of the Kedah River had been built on the site of an old kitchen midden.

Newbold, in "The Straits of Malacca," published in 1839, gives some interesting and more definite information on this point. He says, "That singular mass of limestone, the Elephant Rock, in the Quedah territory . . . was visited by Dr. Ward. . . . At the foot of a detached piece of the limestone rock he found elevated, about eight or ten feet above the level of the surrounding plain, a quantity of shells, chiefly cockles, oysters, and a large kind of mussel, which he describes to have been cemented together, in one compact mass, by calcareous matter, the interstices being filled with soft earth, containing numerous smaller shells. The mass was of irregular shape, between three and four feet square, and about the same in thickness, perfectly superficial, and not connected in any way with the rock near it. No appearance of shelly strata was discovered in the neighbourhood. The rock itself is an insulated mass of limestone, close grained, and of a dark smoky grey colour, perforated by stalactitic caverns of considerable size. It is situated about six miles from the coast, in an immense plain bounded to the east by a small ridge of hills, about 16 miles inland, supposed to be composed of a fine-grained sandstone. The soil of the plain is a whitish clay, mixed with sand. From its general appearance, the low nature of the surrounding country, the existence of the shells in the breccia, and local tradition, Dr. Ward thinks that it was at one time surrounded by the sea, and at no very distant period. The nature of the fossils, when discovered, must determine this point. It does not appear that the stalagmitic flooring of the caves was broken up by Dr. Ward; this should be done in order to get at the silt, sand, gravel, or mud, in which organic remains have been usually found imbedded in the ossiferous caverns of Europe."

The detached mass of shell conglomerate mentioned here is evidently similar to that found in the caves of the inland hills, excepting that the shells are marine instead of fresh water. Probably it was formed at the time when the sea washed the foot of the hill, and was then detached and left in the place where it was found by Dr. Ward by the action of the waves.

Further information is given by Mr. W. E. Maxwell, in a short note on the "Antiquities of Province Wellesley" in the first number of the "Journal of the Straits Royal Asiatic Society." He says, "Singular mounds of shells which are to be met with in the north of Province Wellesley not far from the Muda River. They are composed of sea-shells of the kind called

Kepah and Karang (cockles) by the Malays, though they are situated at some distance from the sea. No other shells of the kind are to be found near the place, I believe. I have been told by Malays in Province Wellesley that one of these mounds was opened and explored by Colonel Low. If the others, left perfect by him, have escaped destruction at the hands of Chinese lime burners, they will probably be worth examination and description. 'Goa kepah' (shell-cave), a place in the neighbourhood, no doubt takes its name from these mounds." Unfortunately, Colonel James Low, the then Lieutenant-Governor of Penang, does not seem to have left any record of his investigation, and no one else would appear to have made an examination of these interesting relics.

It may be objected that these shell-mounds were made by the Ichthyophagi, or sea gipsies, who may in former times have frequented the coasts of this part of the Peninsula. Their position some way from the present coast line points to their having been formed long ago, when the sea-coast was in a different position, and, given a considerable antiquity, there would be no difficulty in reconciling the two suppositions. The sea gipsies are Negritos, and it is by no means improbable that they, in past times, took to a sea life while other portions of the tribes moved inland when the Malays or some other superior race invaded and occupied the littoral and river lands at this part of the Peninsula. This view of the case is supported by local tradition, as the following extract from Newbold's "*Straits of Malacca*" proves: "The Rayet Laut (subjects of the sea) or Orang Akkye, are unquestionably from the same stock as the Jakuns. The two tribes, it is true, differ from each other in localities, habits, and slightly in personal appearance, yet both generally admit the fact of a common origin. The following tradition, however is current . . . amongst the Malays, . . . Dattu Klambu, a man of power in former days, employed a number of Jakuns in the building of an astanah or palace. He had an only daughter, a young and beautiful damsel, who, once upon a time, observing the primitive costume of one of her father's workmen, was seized with an uncontrollable fit of merriment. Whereupon, the irritated Jakuns commenced the incantation 'Chinderweye,' and pursued their way to the forest, followed by the spell-bound princess. Dattu Klambu despatched messengers to bring back his daughter, but she refused to return, and eventually became the spouse of the Jakun chiefs. Dattu Klambu, on receiving intelligence of this occurrence, dissembled his resentment, and invited the whole tribe to a sumptuous entertainment, on pretence of celebrating the nuptials. In the midst of the feast he fired the palace, in which the revels were carried on, and the

whole of the Jakuns except a man and a woman perished in the flames. These two Jakuns fled to Rawang, a marsh near the sea-shore, and from them sprang the Rayet Laut, sometimes termed Orang Rawang or Akkye, who not daring to return into the interior, have ever since confined themselves to the coasts and islets."

This is naturally a more or less fanciful account, but it is not at all improbable that it has a foundation of fact, and that it was raids by Malays or some of the wild tribes that drove some of them inland and others into the protection of the mangrove swamps of the coast, to escape from their persecutions. Had they been in the habit of visiting the coast before this, and were consequently acquainted with the arts of sea fishing and collecting shell fish, this would have been a most probable course for them to adopt.

Returning now to the Ipoh cave. There were found in it mixed with the deposits of shells and bones, numerous lumps of red hematite. The same mineral was also found in two other caves in Perak. This ore has been discovered in the old cave dwellings in Europe; and it is conjectured that it was used as a pigment for painting the faces and bodies of the inhabitants of the caves. The occurrence of this substance, associated with similar remains, in so widely separated localities is very interesting. When first noticed, the idea was formed that possibly the mineral had been collected and brought into the caves on account of its weight and bright metallic appearance, much as children will collect any similar stones, or as the Chinese miners at the present time gather up all pretty or curious shaped stones they may find in the workings and place them on the small altars they form in the mines; or that medicinal or magical properties were attributed to it. The hypothesis of European Archaeologists may, however, be the true explanation of its presence, for it is only necessary to grind up some of the hematite between two stones to form, with a little water or some oil expressed from a seed, like the *prah* or the *kopayong*, a very excellent red paint for personal adornment.

The three colours used by the modern Sakais for painting their persons are charcoal, a vegetable red, and white china clay. These are mixed with oil, and the faces and sometimes the breasts of the women and occasionally the men are painted with patterns with lines and dots. It is only done on occasions when they wish to add to their personal charms.

No implements but the pounding and grinding stones already mentioned have been so far discovered in any of the caves: though it has been somewhat rashly taken for granted that the cave dwellers were the makers of the stone implements that

have been so abundantly found in Perak and the neighbouring states. But the least reflection would serve to show that these implements indicate a much higher intelligence than would be compatible with the evidences afforded by the remains discovered in the caves.

All the stone implements are axe or chisel pointed, not one single spear-pointed implement has ever been found. The second division of the stone age is divided from the first by the introduction of axe-pointed implements, and all the important advances that are indicated by the use of this type of tool. If the cave people had been acquainted with the use of stone, they would almost certainly have employed spear-pointed implements of the rudest kind; as when they had advanced as far as the making of chisel and axe-pointed tools, they would have been able to build houses, and be independent of the shelter of caves, and have been in a position to cultivate the soil and raise food instead of having to subsist on shell-fish and the animals of the jungle. The multiplicity of the types of stone implements found in Perak shows that the users of them must have been comparatively in a high state of civilisation.

The remarkable absence of all palaeolithic patterns may be explained by supposing that there never was a period in this part when the ruder implements were in use, but that the people, whoever they were, who employed them, were settlers from some other locality, who on arrival had reached the second stage of the Stone Age. There is, of necessity, no means of fixing even in the most approximate manner the date of the introduction of the use of stone in Perak, but the similarity of the types of the implements is quite sufficient to indicate that it was a continuation of the same wave of progress which led to the evolution of these tools in other countries. This is, of course, far from saying that the Stone Age in Malaya was contemporaneous with that of Europe. The number of the stone implements is, however, as striking here as in other parts of the world, pointing indubitably to the long continuance of the use of these lithic tools.

The finding of a few implements in the cave deposits would by no means prove that the inhabitants were the makers of them, but only that they were of the same age. For it would be quite likely that, were two races of different degrees of advancement living in the country at the same time, that the lower might occasionally acquire, either by barter or other means, the weapons of the higher race. In the same way as the wild tribes now use iron axes, pottery, clothes and other things bought from the Malays, and the Malays themselves use articles of European manufacture.

So far, pottery has not been found, except some fragments of coarse earthenware in the superficial layers of the earth of some of the caves, and this is undoubtedly of comparatively speaking recent Malayan origin. At the present time the Malays are acquainted with the potter's art, but the wild tribes are not. They use bamboos for cooking rice and other grain, when they cannot get Malay cooking pots.

The burial customs of the cave dwellers would appear from the only interment which has been discovered to have been of the most primitive kind, that is, the bodies were left where they fell, with possibly a slight covering of earth, and the family or tribe, as the case might be, left the place. This same custom is still followed by both the Sakais and the Semangs. Not only the house in which the death takes place, but the clearings, often of some acres in extent, planted up with crops, are also abandoned. If anything was wanted to prove the recent date when the cultivation of the land was adopted by the wild tribes, a custom such as this is sufficient. It is inconceivable that such a habit could long survive in a community which depended for its sustenance on the produce of the soil. At the present time it is dying out in places, and as the cultivation of the land increases, it must ultimately fall into desuetude. The Malays bury their dead in amongst their kampongs, and this custom seems to show a close connection between the wild tribes and them in this respect. It is really only a step. In fact, what is now taking place among the Sakais in the less remote places will supply instances of all the phases between the two customs. From shutting up the body in the house, leaving the body in the house but covering it with earth, to making a grave in the garden near the house.

There would appear to be no available data by which even the merest approximation to the age of these cave remains can be made; but it must be very considerable, as in some of the caves at least 12 feet of a mixture of shells, bones and earth has been accumulated and subsequently removed again in the floors of the caves. In places, two and three layers of solid stalagmite have been formed and removed, some of these layers having been 5 feet in thickness. Portions of these layers are to be seen sticking on to the walls of the caves or on to the ends of the stalactites hanging from the roof. As already mentioned, the level of the caves is, as a rule, very much higher than the present level of the valleys in which the hills stand, though there is nothing to show what time elapsed between their formation and occupation by human beings. In the case of the caves at Ipoh, the human deposit rests on a bed of coarse river sand, and there does not appear to be any

earth in between the two deposits. A factor to be taken into account is that the caves could not have been occupied for long at a time. For the supply of food would soon run short, and the people would have to shift to another cave, and leave that again as soon as the supply of food became exhausted in its vicinity. Thus the occupation must have been only intermittent, with often comparatively long intervals intervening.

Of the habits and customs of the cave dwellers not much can be gleaned, but some idea of them can be formed. From the extraordinary quantity of shells in these caves it is evident that fresh water and land molluscs must have been their staple food, supplemented by such animals as they snare or kill with their rude weapons, the fish they could catch, and the fruits, leaves and roots of the jungle. The absence of any implements, except those already mentioned, indicates an extremely low state of intelligence, though it is quite possible that they may have been able to fashion weapons out of bamboo, with knives made of the same material hardened by the application of fire, and probably supplemented by the use of sharp fragments of stone. In this way it would be quite possible to make bamboo pointed spears, blowpipes, darts, and bows and arrows. With these and a knowledge of the means of extracting the poison from some of the plants of the jungle, they would be able to kill the animals whose bones are so plentiful in the caves. Bamboo weapons would of course leave no trace after all the long time that must have passed since they were in use. That they used fire is abundantly evident, and this, in the hands of some savages, is made into a most effective means of shaping wooden objects. The use of fire in cooking was probably confined to roasting their food, for without tools it is in a country like Perak impossible for any cultivation of grain to have been carried on, and therefore the necessity for boiling would not have arisen. The presence of pig bones, shows the cave dwellers were not Mohammedans. The nature of their food and the indications of a custom of leaving their dead, would show that they were continuously shifting from cave to cave, and the presence of sea-shells far inland, that they may at times have extended their wanderings as far as the sea-coast in search of a change of diet.

This is all the evidence we have of their habits and customs. It is meagre, though apparently sufficient to enable an idea to be formed of who these cave dwellers were. In the southern part of the Malayan Peninsula there are three races of people, without counting the Chinese and other modern introductions. These are the Semangs, the Sakais and other nearly allied tribes, and the Malays. The former are nearly pure Negritoës, while the

Sakaïs are a mixed race, apparently a cross between the former and the race that has been called Indonesian. The Negritoës are probably the true aborigines, as they are met with even now in comparative purity, while the Indonesians are only to be traced by their admixture. From this point of view the earliest cave dwellers were therefore most likely the Negritoës. Looked at from the other aspect, the habits of the modern wild tribes are so similar to those of the people under consideration, that if they were to be deprived of the iron tools they now obtain from the Malays, they would be, to all intents and purposes, in the same position as the ancient cave men. Probably at a subsequent date the mixed races also occupied the caves in some parts of the country. The habit in all likelihood continued until the introduction of tools by the Malays, or some other race in an equally advanced state, enabled them to fell the jungle and build houses for themselves.

A PRELIMINARY NOTICE of the LUCHUAN LANGUAGE. By BASIL HALL CHAMBERLAIN, Emeritus Professor of Japanese and Philology in the Imperial University of Japan.

(Read January 7th, 1896.)

HAVING spent twenty years in exploring most corners of Japan, and as many corners as possible of the Japanese mind—the history, the poetry, the customs, and above all the language of this peculiar people—I naturally wished to make acquaintance with the neighbouring little archipelago to the south, the archipelago of Luchu, which, till the year 1874, had formed a semi-independent kingdom, tributary on the one hand to the Japanese Prince of Satsuma, and on the other to the Court of Peking. This wish was fulfilled in the spring of 1893, and the results of the journey were sent home to the Royal Geographical Society. They show that the Luchus are no mere barbarous islands like some others further to the south in the Pacific, but the scene of an eventful history, and the seat of an ancient and highly complex civilisation.

The most interesting feature, however, is the language, concerning which nothing had hitherto been known in Europe, save a short vocabulary printed seventy-seven years ago by the first British explorers of the chief island.¹ The very few missionaries

¹ See Lieut. H. Clifford's Appendix to Captain Basil Hall's "Voyage of Discovery to the West Coast of Corea and the Great Loo-choo Island." Murray, 1818.

and stray visitors that have passed that way since then, seem either to have taken for granted that Luchuan was a mere patois of Japanese, or else to have thought nothing about the matter—at any rate they have published nothing on it. Even the Japanese, who recently annexed the archipelago and now rule it by means of officials sent from Tōkyō, have paid little attention to the subject, their sole noteworthy contribution being a Japanese-Luchuan Conversation Book, which is, however, very faulty and unaccompanied by any grammatical observations.

To the present writer's lot fell, therefore, both the labour and the pleasure of pioneer work. The governor of the archipelago kindly provided two teachers—native gentlemen of royal descent, employed at the Nafa Prefecture, speaking a little Japanese, and at first equally astonished and amused at the foreigner's freak of desiring to learn their native tongue. Soon, however, one of them warmed to his task. After having, like Monsieur Jourdain, spoken prose all his life without knowing it, he was quite taken with the revelation of the existence of such things as verbs and adjectives, and he proved a most intelligent fellow-explorer. To myself the interest was palpitating, as will be best understood by those few whose good luck it has been to discover a new language. Everything had to be found out from a collation of sentences in which the same words or what seemed to be cognate grammatical forms occurred, Japanese serving as a constant term of comparison; for it was evident from the beginning that Japanese and Luchuan were sister tongues. This clue greatly facilitated the investigation; but from time to time it failed, and then one had to grope about in the dark, till accident, or more facts, or some lucky hypothesis came in to fill the blank.

Without more preamble, let us now turn to view the Luchuan language in outline,¹ premising that the vowels, as here transliterated, are to be pronounced approximately as in Italian, the consonants as in English, with *ch* always as in "church," and *g* always as in "give" or "get." Luchuan has three short vowels *a*, *i*, *u*, and five long ones, *ā*, *ī*, *ū*, *ē*, and *ō*, differing in this from Japanese, which possesses five short vowels, *a*, *i*, *u*, *e*, *o*, and two long ones, *ō* and *ū*. Moreover the Luchuan long vowels are of quite phenomenal length. Take, for instance, such a word as *yābīng*, which means "to be," or better still *sōtī tsē*, the "isolated form" of *sōtī tsī*, "a sago-palm."² When a Luchuan once

¹ Full details, including a minute comparison with Japanese, are in course of preparation for publication as one of the *Memoirs of the Literature College of the Imperial University of Japan*.

² Properly a cycad, the *Cycas revoluta*; but as a kind of sago is made from it, and forms indeed one of the staple forms of food of the Luchuan people, we may perhaps here call it "sago-palm" for the sake of clearness.

gets fairly started on *sō tī tsē . . .*, so tenaciously does he insist on the three long quantities that you begin to count the seconds, and almost wonder whether he will ever be content to leave off. Curiously enough, the glaring contrast between long and short counts for nothing in Luchuan prosody, which is regulated solely by the number of syllables in a line.

The following are some of the most usual letter-correspondences in the two languages:—

<i>Luch.</i>		<i>Jap.</i>		<i>Luch.</i>		<i>Jap.</i>
i	..	e		f	..	h
u	..	o		y	..	r
ch	..	k		n	..	m
j	..	g				

thus,

<i>Luch.</i>				<i>Jap.</i>
<i>kumi</i>	..	..	..	<i>kome</i> , "rice" (hulled.)
<i>kāmi</i>	..	..	..	<i>kame</i> , "tortoise."
<i>munu</i>	..	..	..	<i>mono</i> , "thing."
<i>chichung</i>	..	..	..	<i>kiku</i> , "to hear."
<i>fji</i>	..	..	..	<i>hige</i> , "beard."
<i>fafa</i>	..	..	..	<i>haha</i> , "mother."
<i>wasiyung</i>	..	..	..	<i>wasureru</i> , "to forget."
<i>nunung</i>	..	..	..	<i>nomu</i> , "to drink."

A good many words, especially substantives, are identical or nearly so in the two languages, as *yama*, "mountain"; *mushi*, "insect"; Luch. *kī* and Jap. *ki*, "tree." In other cases the diversity is as great as that separating the French word "huit," "eight," from the Spanish *ocho*. For instance, "to go out," is *deru* in Japanese, *njiyung* in Luchuan; but it can be proved (partly by the application of the key given above) that these two seemingly un-related words correspond letter by letter, thus:—

Luchuan <i>nj</i>	=	Japanese <i>id</i> (<i>i</i> lost in modern Jap.)
" <i>i</i>	=	" <i>e</i>
" <i>y</i>	=	" <i>r</i>
" <i>u</i>	=	" <i>u</i> (in this case.)

while the final *ng* of the Luchuan word is a verbal termination which had already been lost in the very earliest Japanese known to us, that of the eighth century after Christ. In a good many instances we find irregularity of correspondence. Thus:

Luch. <i>chāyung</i>	and	Jap. <i>kieru</i> ,	"to go out" (of a light).
" <i>kābā</i>	"	" <i>kumo</i> ,	"a spider."
" <i>hachā</i>	"	" <i>hachi</i> ,	"a bee."

though evidently related, fail to show us the steps by which one represents the other. Speaking generally, we may say that Luchuan is more original in its vowels, while with regard to the consonants the two languages divide this honour between them. Thus Luchuan *f* is older than Jap. *k*, but Jap. *k* is older than Luch. *ch*.

So also with the sense of words, which sometimes diverge slightly in meaning even when corresponding in form, just as English "strong," while etymologically identical with German *steng*, branches off from it in signification. The terms for "leg" may serve as an instance. The Japanese is *ashi*, the Luchuan *fisha*, which latter coincides etymologically with the Japanese word *kiza*, signifying in that language not "leg," but "knee." A little inquiry, moreover, shows that the word *ashi* itself exists in Luchuan also, but that it is there an opprobrious term. As my genial old Luchuan teacher expressed it, "You must say *fisha* when speaking of any respectable person; you can only use the word *ashi* of such creatures as pigs or coolies." The distinction, in fact, resembles that between *essen* and *fressen* in German. Another example, showing incidentally how linguistic history repeats itself in different areas of the world's surface, is offered by the Luchuan word *kutu* and its Japanese equivalent *koto*. The latter always means "thing," the former sometimes "thing," but more generally "cause" or "because," thus presenting an exact parallel to the change of Latin *causa* into the *cosa* and *chose* of modern Italian, Spanish, and French. In yet other cases, Luchuan and Japanese part company altogether. Such words as Japanese *sukoshi* and Luchuan *īē*, both meaning "a little," resemble nothing in the sister tongue. Similar examples are offered by

Luch.		Jap.
<i>majūng</i>	..	<i>tomo ni</i> , "together."
<i>wenenchu</i> ¹	..	<i>nezumi</i> , "rat."
<i>gajang</i>	..	<i>ka</i> , "mosquito."
<i>wutayung</i>	..	<i>tsukareru</i> , "to be exhausted."
<i>tārī</i> ..	..	<i>chichi</i> , "father."
<i>ayā, ammā</i> ²	..	<i>haha</i> , "mother."
<i>yatchī</i>	..	<i>ani</i> , "elder brother."
<i>wunai</i>	..	<i>imōto</i> , "younger sister."
<i>tammā</i>	..	<i>jiji</i> , "grandfather."
<i>mmē</i> ..	..	<i>baba</i> , "grandmother."

¹ The use of *we* and *gy* in transliterating certain Luchuan words will be explained in the more elaborate treatise already referred to.

² *Fafa* also exists in the sense of "mother," as already mentioned.

The radical divergence of such important words as the names for several of the family relations in two closely connected languages may strike a European with surprise. Remember, however, that it is just these very words which Oriental politeness, owing to its fondness for honorific and other far-fetched synonyms, tends constantly to alter. The same is true of personal pronouns, the least changeable of all words on Aryan soil, the most changeable of all in the far east. Perhaps, too, further investigation may succeed in identifying even some of these seemingly far-sundered words. As a case in point, I have not included Luch. *wunchiū* and Jap. *oji*, "uncle," in the above list, because suspecting a relationship between the two terms notwithstanding the wide gulf that separates them in appearance.

Coming now to a consideration of Luchuan grammar properly so-called, we find that, like Japanese and Korean, it neglects all considerations of number and gender, and manages case-relations by means of independent particles, just as we do in English, the only difference being that these particles are "postpositions" instead of propositions. About two-fifths of the Luchuan postpositions agree with Japanese; the remaining three-fifths seem to be original, and cannot be explained in the present state of our knowledge—perhaps I should rather say our ignorance. But whereas Japanese adheres rigidly to the use of the independent postpositions, nowhere approaching anything that might be even distantly compared with the Aryan inflections of nouns, Luchuan is less consistent in this respect. Its nouns admit of a four-fold declension, though for purposes widely differing from those registered in European grammars, each noun having its "Isolated Form," its "Aggregated Form," and its "Interrogative Form," and the declension varying according to the final letter of the word declined.¹

The following is a paradigm :—

1st Class (final *a*.)

Plain	..	..	<i>fira</i> , "a hill."
Isolated	..	..	<i>firā</i> , "as for a hill."
Aggregated	..	..	<i>firang</i> , "a hill too."
Interrogative	..	..	<i>firai</i> , "a hill?"

2nd Class (final *i*.)

Plain	..	..	<i>kumi</i> , "rice."
Isolated	..	..	<i>kumē</i> , "as for rice."
Aggregated	..	..	<i>kuming</i> , "rice too."
Interrogative	..	..	<i>kumī</i> , "rice?"

¹ The technical terms employed here and in other portions of the present paper must kindly be taken on trust till the appearance of the fuller Memoir on the same subject. Some of them are borrowed from Japanese grammar.

3rd Class (final u.)

Plain	..	..	..	<i>gusiku</i> , "a castle."
Isolated	..	..	..	<i>gusikō</i> , "as for a castle."
Aggregated	..	..	..	<i>gusi kung</i> , "a castle too."
Interrogative	..	..	..	<i>gusi kui</i> , "a castle?"

4th Class (final long vowel.)

Plain	..	..	..	<i>hachā</i> , "a bee."
Isolated	..	..	..	<i>hachā-ya</i> , "as for a bee."
Aggregated	..	..	..	<i>hachāng</i> , "a bee too."
Interrogative	..	..	..	<i>hachā-yyi</i> , "a bee?"

5th Class (final ng.)

Plain	..	..	..	<i>ching</i> , "a garment."
Isolated	..	..	..	<i>chinō</i> , "as for a garment."
Aggregated	..	..	..	<i>chinung</i> , "a garment too."
Interrogative	..	..	..	<i>chinui</i> , "a garment?"

The above are the only finals which the Luchuan language allows. There are also a few irregularly declined words, which cannot be here detailed.

With regard to the case here termed "Isolated," it should be mentioned that it corresponds pretty closely with such French idioms as "*Cette guerre, qu'en pensez vous?*" "*Moi, je n'en sais rien,*" where the words *guerre* and *moi* are, as it were, taken up and lifted out of the regular sequence of the sentence, put in a place by themselves, in fact isolated. Japanese, Korean, Aino, even Chinese, lay stress on this peculiar grammatical phenomenon; but they all do so by means of a separate postposition, the Japanese particle subserving this purpose being *wa*. "Aggregation" is the contrary of Isolation, showing as it does that the word in question must be joined to others, and thus corresponding roughly to our "too," "also," "and." The Japanese express this relation by the postposition *mo*. In my opinion the cases, or quasi-cases, of Luchuan are a new formation; and the argument in favour of identifying the Isolated and Aggregated terminations respectively with the Japanese particles *wa* and *mo* will be found worked out in the Memoir already alluded to. On the other hand the Interrogative forms of Luchuan nouns and also verbs exhibit no trace of a Japanese connection, and their origin must for the present remain unsolved.

The so-called personal pronouns of far-eastern languages are nouns pure and simple, and in Luchuan declined as such. *Wang*, "I," reminds us of the Classical Japanese *ware*; but *yā*,

"you" (to inferiors), and *unju*, "you" (honorific), show no Japanese connection. The demonstrative and interrogative pronouns and adverbs recall Japanese analogies in many instances:—

Luch.		Jap.	
<i>kuri</i>	.. ..	<i>kore</i> ,	"this."
<i>uri</i>	.. ..	<i>sore</i> ,	"that" (near.)
<i>ari</i>	.. ..	<i>are</i> ,	"that" (far.)
<i>tā</i>	.. ..	<i>dare</i> (class <i>tare</i>)	"who?"
<i>chā</i>	}	<i>nani</i> ,	"what?"
<i>nū</i>			
<i>mā</i>	.. ..	<i>doko</i> ,	"where?"
<i>itsi</i>	.. ..	<i>itsu</i> ,	"when?"

The numerals agree still more closely, excepting the words for "one" (Luch. *chu* or *titsi*, Jap. *hitotsu*), and "two" (Luch. *tātsi*, Jap. *futatsu*).

The verb here, as in most languages, offers the greatest interest, being the most complicated part of speech. In Luchuan it is even more complicated than in Japanese; for while we are confronted by the same formidable array of moods and tenses, and of negative, causative, potential, honorific, &c., conjugations, we find that the present and three past tenses of the indicative, instead of having only one form as in Japanese, each possess five. True, Luchuan disregards number and person as consistently as do all the other languages of the East Asiatic seaboard. "I go," "you go," "he goes," "they go," &c., are all to be translated by the identical word *ichung* (in Jap. *iku*). The Luchuan tense-inflections follow a different line of grammatical thought, and one which is by no means easy to explain to European readers. Students of Archaic and Classical Japanese will, however, readily appreciate what is meant, as the Japanese language formerly made somewhat similar distinctions, though without pushing them to the same degree of elaboration. Take, for instance, the present tense of *njiyung*, "to go out":

Luchuan.		Classic Jap.	Modern Jap
Conclusive	.. <i>nji yung</i>	<i>idzu</i>	} <i>deru</i> .
Attributive	.. <i>nji yurn</i>	<i>idzuru</i>	
Apocopated	.. <i>nji yu'</i>	(wanting)	(wanting);
Interrogative	.. <i>nji mi?</i>	"	"
Verbal Noun	.. <i>nji si</i>	"	"

The Conclusive form is the predicative verb proper, but can come nowhere except at the end of the sentence. The Attributive precedes nouns, e.g., *njiyuru chu*, "the goes out man," i.e., "the man who goes out." It likewise replaces the Conclusive

in subordinate clauses ending with a post-position, as *njiyuru nakai*, "whereas one goes out"; and in one class of peculiarly emphatic cases it even replaces it at the tag-end of the sentence. The Apocopated form replaces the Attributive in subordinate clauses before certain postpositions, as *njiyu' kutu*, "because he goes out." The Interrogative of course serves to ask questions. The Verbal Noun exercises functions cognate to those of the Infinitive in European languages, and it also in certain cases replaces the Conclusive form in its predicative capacity. This brief, and I fear scarcely intelligible, summary of the Luchuan tense-forms must suffice here, as only a very lengthened disquisition could do justice to them, and such will be found in the Memoir.

Luchuan, as already stated, has three past tenses, as against the single past tense of Modern Japanese; and all possess the five-fold inflection. In other respects the plan of conjugation is identical in essence, though often very different in outward appearance, and sometimes even in the material employed. The formation of the Negative Voice, however, shows some divergences not easily explicable. The Present Indicative of the Negative is obtained from the Present Indicative of the Positive by changing *u* into *a*, while at the same time the preceding consonant suffers variation according to certain fixed rules. Thus,

<i>Positive Present.</i>		<i>Negative Present.</i>	
<i>njiyung</i>	.. ..	<i>njirang</i> , "to go out."	
<i>wasiyung</i>	.. ..	<i>wasirang</i> , "to forget."	
<i>numung</i>	.. ..	<i>numang</i> , "to drink."	
<i>kanung</i>	.. ..	<i>kamang</i> , "to eat."	
<i>chichung</i>	.. ..	<i>chikang</i> , "to hear."	
<i>machung</i>	.. ..	<i>matchang</i> , "to wait."	

The Present Indicative of the Negative has but three inflections, the various past tenses have five, as in the Positive, thus:—

<i>Neg. Pres.</i>		<i>Neg. Imperfect.</i>	
Concl.	} <i>njirang</i> .	<i>njirangtang</i> .	
Attrib.		<i>njirangtaru</i> .	
Apoc.		<i>njirangta'</i> .	
Interr.	<i>njirani?</i>	<i>njirangti</i> .	
V. Noun.	<i>njirangsi</i> .	<i>njirangtasi</i> .	

and similarly through two other tenses, the Perfect and the Pluperfect.

The Japanese equivalents of this array of hard words are simply

<i>Neg. Pres.</i>	<i>Neg. Past.</i>
<i>denu.</i>	<i>denanda.</i>
or, in the Tokyō dialect,	
<i>denai.</i>	<i>denakatta.</i>

Japanese verbs form their Negative Voice thus :—

Kiku, "to hear"; *kikan* or *kikanai*, "not to hear"; *miru*, "to see"; *min* or *minai*, "not to see"; and it has been hitherto tacitly taken for granted that the power of negation, here as in the case of the negative words of so many European languages (*non*, *nunquam*, *nicht*, *nyet*, &c.) resides in the letter *n*. The phenomena of the Luchuan verb, where *ng* (=Jap. *n*) appears in positive and negative alike, will necessitate a reconsideration of this position, whose unsoundness indeed had already been hinted at by Mr. Aston, the ablest of all grammarians of Japanese. The final decision may perhaps not be easily reached, after all. Another theory of Mr. Aston's—hitherto a mere hypothesis because lacking support in ascertained fact—is brilliantly established by the discovery of Luchuan. It is to the effect that the various conjugations of Japanese verbs were all originally one. Their diversification is a comparatively modern phenomenon, peculiar to Japanese and not shared in by the sister tongue in the little Southern archipelago.

Adjectives, in Luchuan as in Japanese, are for the most part verbal in their nature,—form, in fact, a special class of intransitive verbs admitting of conjugation through most of the moods and tenses. Here, as a specimen, is part of the conjugation of *tūsang*, "distant," the Japanese *tōi* :—

	<i>Luch.</i>	<i>Jap.</i>
Stem (used in compounds)	<i>tū</i>	<i>tō</i>
Adverbial form	<i>tūku</i>	<i>tōku</i>
Isolated state of do. ..	<i>tūkō</i>	<i>tōku wa</i>
Causative form	<i>tūsanu</i>	(missing).
Present tense Conclusive ..	<i>tūsang</i>	<i>tōi</i>
Do. Attributive	<i>tūsaru</i>	
Imperfect tense Concl. ..	<i>tūsatang</i>	<i>tō katta</i>
Do. Attrib.	<i>tūsataru</i>	
Hypothetical Mood	<i>tūsarā</i>	<i>tōkereba</i>
Neg. Present	<i>tūkō nērang</i>	<i>tōku nai.</i>
&c.	&c.	&c.

Adverbs are supplied, partly by such forms as the second in the above paradigm, partly by nouns. Conjunctions are few

and comparatively unimportant, their place being largely supplied by conjugational forms of the verb and adjective.

The construction of sentences (syntax) agrees with that usual, not only in Japanese, but in even so distantly related—if indeed related—a language as Korean. Few things perhaps are more remarkable in their way than the tenacity with which these far eastern languages, however widely they may diverge from each other in vocabulary, and however great may be the changes suffered by each during the lapse of time, adhere to one iron rule of construction,—a rule, too, which strikes European minds as the very reverse of natural, seeing that the sentence is turned upside down. However, there is no need to discuss this subject here. Any good Japanese or Korean grammar will supply details to those desiring them.

The importance attaching to the discovery and analysis of a sister tongue to Japanese lies in the fact that Japanese owns no other sisters. Syntactically, indeed, as just remarked, and in general structure, the likeness between Japanese and Korean is extremely close. One might even go further, and mention Manchu and Mongol as breathing, so to say, the same grammatical atmosphere. Indeed a mental cousinship pervades all the languages of the far east, even those which, like Chinese, belong to an altogether separate linguistic class. Whether race kinship, or mutual influence be at the root of this, were hard to say:—it can scarcely be the result of mere coincidence. At any rate, notwithstanding the close structural resemblance subsisting between Japanese and Korean, their respective vocabularies differ far more than do those of the most widely sundered members of the Aryan family, differ so completely that some eminent scholars dispute even those faint and scanty traces of similarity which others have laboured to establish.

Japanese had thus hitherto stood alone in the world, without kith or kin, possessing of course local dialects—for what language was ever spoken uniformly over so wide an area?—but traceable to no parent, and claiming no living relatives. Consequently no such interesting comparisons were possible in its case as, for instance, those to which our European languages and the Malayo-Polynesian family in the Pacific lend themselves. Japanese etymologies, too, mostly remained at the guessing stage. As for the accident, grammarians could enumerate forms, but were often unable to explain them; they could imagine hypotheses, but could not build trustworthy theories. With Luchuan to refer to the case becomes different, for Luchuan stands to Japanese in about the same relationship as Italian does to French and Spanish.

The divergent and in part more archaic, character of the

Luchuan verbal conjugation has been glanced at in the foregoing pages. The vocabulary exhibits similar traits, but demands more thorough sifting before it can be appraised at its exact value from a comparative point of view. I may, however, be permitted to quote an instance of the manner in which Luchuan, even at this early stage, can be brought into court to give evidence on questions of wider interest. The Japanese *torii*, or peculiar gateway standing in front of Shintō temples, is written with the characters 鳥居, that is "bird dwelling," and the native account of its origin is stated, and as it would seem accepted, even by so high an authority as Mr. Satow, who writes thus concerning it:—

"The *torii* was originally a perch for the fowls offered up to the gods, not as food, but to give warning of daybreak. It was erected on any side of the temple indifferently. In later times, not improbably after the introduction of Buddhism, its original meaning was forgotten; it was placed in front only, and supposed to be a gateway. Tablets with inscriptions (*gaku*) were placed on the *torii* with this belief, and one of the first things done after the restoration of the Mikado in 1868, in the course of the purification of the Shintō temples, was the removal of these tablets. The etymology of the word is evidently 'bird rest.' The *torii* gradually assumed the character of a general symbol of Shintō, and the number which might be erected to the honour of a deity became practically unlimited. The Buddhists made it of stone or bronze, and frequently of red-painted wood, and developed various forms."

Nothing could well be more explicit. Notice, however, *in limine*, that we really know nothing whatever of Shintō until after the introduction of Buddhism into Japan, our earliest extant Japanese book, the "*Kojiki*," dating only from A.D. 712, when Buddhism, which brought civilisation in its train, was already an established power in the land. What modern native *literati* have to say concerning the state of their country in pre-Buddhist days is therefore almost all conjecture,—conjecture enlivened by a patriotism of the most jingo hue. Mr. Aston, struck apparently by the intrinsic improbability of the erection of gateways for cocks to perch on, prefers to derive *torii* from *tōru*, "to pass through," an etymology which might seem appropriate enough for a term signifying "gateway," though the long *ō* of the one word and the short *o* of the other cause serious difficulty. Now the Luchuan form of the word, which is *turi*, strikes at the root both of the orthodox derivation and of the proposed alternative. "Bird" in Luchuan is *tui*, and "to pass through" is *tūyung*, both words corresponding quite regularly with Japanese *tori* and *tōru* respectively, even in the matter of

vowel quantity. The absence of the *r* is what the rules of interchange between such pairs of Japanese and Luchuan words would lead us naturally to expect, and the Luchuan equivalent of *torii* according to the former etymology would be *turŭi*, according to the latter probably *tūyi*. But the actual Luchuan form *turi* has an *r*, and must therefore have descended from some source distinct from either "bird" or "passage"; and though we should not therefore jump to the identification of the Japanese *torii*, "Shintō gateway," with the *turan* of India (the Chinese *p'ai-lou* or *p'ai-fang*), we may at least say that one obstacle to such a conclusion is removed.

Returning now to the proved fact of the sisterhood of the Japanese and Luchuan languages, it may be asked how this close connection should be accounted for. In order to do so, I would first point to the extremely close physical resemblance characterising the members of the two nations.¹ Secondly, I would mention the fundamental similarity of many of their customs and ways of thought,—in religion, for instance, where Luchuan usage reminds us of the simplest and most rustic form of Shintō. And I would suggest that linguistic resemblance, resemblance of bodily conformation, and resemblance of fundamental ways of thought may all be accounted for by a consideration of the manner in which the Japanese race reached its present habitat. Look at any atlas, and you will see that Kyūshū, the southernmost of the large Japanese islands, is the portion of Japan nearest to the mainland of Asia, Kyūshū, with little Tsushima as a convenient stepping-stone.² Tradition, too, and what little we know of the early history of the country, indicate Kyūshū as the first point reached by the invaders, whence they started eastward and northward on their career of conquest, driving the aborigines before them.

Now is it not intrinsically probable that while the main body moved north-east in the general direction of the land, a few stragglers, laggards, or weaklings should have been shoved south, driven perhaps by defeat in internecine strife to take refuge in the little southern archipelago, whose islets stretch like stepping-stones the whole way from the Gulf of Kagoshima in Southern Kyūshū to what is now known as Great Luchu? History tells us of the arrival of such refugees during the Middle Ages. Why should not the same thing have occurred at an earlier date?

¹ For details on this subject and those about to be discussed, see a paper by the present writer entitled "The Luchu Islands and their Inhabitants," published in the "Journal of the Royal Geographical Society" for 1895.

² I omit Saghalien from the hypothesis, though it approaches the mainland nearer than Kyūshū does. But the Japanese race never spread nearly so far north. At the dawn of history it had only pushed up to the latitude of Sendai, and Yezo is a much later and even yet imperfectly assimilated addition.

The racial and linguistic affinities would thus find a very simple explanation, while the distance in time and space amply accounts for the existing differences;—compare, in Europe, the divergence between the various members of the Scandinavian group of languages, or between the history of Latin in Italy and what it became in France and in Spain. The cousinship between Luchuan and Japanese proves one debated point:—it proves that Japanese is the language of the invaders, not a native language taken over by them from the previous inhabitants of Central Japan, as French was taken over by the Normans. For had that been the case, then Japanese and Luchuan should have shown radical divergence.

On the OLDEST STONE IMPLEMENTS in the EASTERN UNITED STATES. By DANIEL G. BRINTON, M.D., LL.D.

A FEW years ago, nearly all American archaeologists believed that true "palæolithic" stone implements, dating back to the glacial period or immediately subsequent to it, had been collected in various parts of the Eastern United States. At present, very few will be found ready to defend this opinion.

This change of sentiment has been brought about by two factors: a more searching investigation of localities, and a more critical sifting of the evidence demanded to prove high antiquity.

The severity of the tests which this discussion has led us to apply in the United States does not generally obtain in Europe, if I may judge from various collections of so-called palæolithic implements which I saw in the summer of 1895 in France and England, and from various articles which have appeared in Continental and English Journals within a year.

The analysis of the evidences of antiquity which has led to the rejection of most, if not all, the alleged palæolithic stations in the United States may be briefly stated.

The antiquity of a stone implement must be judged by two lines of evidence: one, intrinsic, offered by the implement itself, the other, extrinsic, presented by the surroundings in which it was found.

Intrinsic evidence includes, 1, shape; 2, finish; 3, patination; and 4, signs of use.

If we regard the *coup de poing* of the Somme gravels (the "axe of St. Acheul" of Mortillet) as the typical palæolithic

implement,¹ then we must exclude all the stations in the United States, for it has never been found here. We have what look like chipped hand-stones in abundance, but not the true Acheulien type. Rude chipped stone implements belong to all epochs, and no special shape assigns them to the oldest. A misapprehension of this fact has led to some grievous archaeological errors.

The *finish* of all palæoliths has been supposed to be by chipping. The grounds for this assumption have been seriously challenged by Holmes,² McGuire,³ and others. Long ago, Lartet and Christy, in their monumental work, doubted it. Art-progress must have varied in different tribes, and some learned to polish and bore stone much earlier than others; while tribes near by may have continued to chip exclusively far into the neolithic period. The kind of stone preferred for implements must also have had a potent influence on the development of the art of working it. We must not permit ourselves to be bound too closely by the notion of a universal chipped-stone period.

The value of *Patination* has certainly been overstated. Its depth depends on other factors than age. Under equal exposure, the surface of different stones undergoes this chemical change to widely different degrees, and the same stone varies surprisingly under varying conditions of exposure. The chipped flints from the Libyan plateau are remarkably patinated, while those from Egyptian tombs, certainly constructed five thousand years ago, show no change of surface. The contrast is due, not to age, but to relative exposure. When implements made of the same material are found in the same stratum, some patinated much more than the others, it is not evidence that the latter are older than the former, but only that their conditions of exposure have differed. Flints and cherts patinate more rapidly when exposed to the atmosphere; other stones, such as serpentine, undergo this change more promptly in damp soils. This criterion, therefore, though of value, is far from being in itself evidence of high antiquity.

Anyone who examines closely a large collection of "palæoliths" cannot but notice how few of them show any *signs of use*. If they were completed implements and actually in use, they

¹ See his "Musée Préhistorique," Planches, VII-IX, for the "instrument caractéristique" to which I allude.

² One of the many studies of this expert archaeologist, pertinent to the present theme, is his "Natural History of Flaked Stone Implements," in the "Memoirs" of the International Congress of Anthropology at Chicago, 1893.

³ Mr. McGuire's suggestive essays, based on a long personal experience in dressing stone by aboriginal methods, have appeared in the "American Anthropologist."

will indicate this by minute fractures along their cutting edge, small irregular breaks, from hitting hard objects. In the hundreds of so-called American palæoliths which I have examined, not more than two or three per cent. reveal any traces which can be attributed to such action.

This last is almost a fatal blow to accepting them as implements at all, and I might say the same with reference to the majority of specimens in a number of collections which I have examined in Europe.

But if they were not implements, what were they? They certainly display the handiwork of man.

The answer is prompt and clear. They are *quarry rejects*, or refuse, bits of stone from shingle or gravel, or from actual quarries, chipped roughly more or less into shape, and then thrown away on account of some flaw or fault which the primitive worker perceived and disliked. I have seen tons and tons of such refuse material at Piney Branch, near Washington, and among the jasper and argillite quarries of Pennsylvania. A moderate amount of practice and study will enable the student to detect in most instances why the aboriginal artist rejected a given piece, and in European "palæolithic collections" I have repeatedly recognized such rejects by the same infallible indications of lack of adaptability.

The result of the above is, that while the *intrinsic* evidence enables us in many instances to say that an implement is *not* of extreme antiquity, it offers no positive reasons for asserting that it has such age.

In the United States the experts have therefore rejected the alleged intrinsic evidences of antiquity. We depend entirely on *extrinsic evidence*. This may be stratigraphic, palæontologic, or cultural.

The stratigraphic geology of the post tertiary period in the Eastern United States—that period in which it is possible man existed here—is far from definitely ascertained.

In many states west of the Mississippi there are extensive though rather shallow deposits termed "Equus beds" from the abundant remains of the *Equus excelsus* which they inclose. They are not known east of the Mississippi, but there a well-marked horizon appears, lacking the horse, but with numerous bones of large edentates, especially the *Megalonyx* and *Myodon*. Hence they have been named the *Megalonyx* beds. Cope, Gilbert, and others, have claimed to have found obsidian implements and other signs of man in undisturbed relations in the Equus beds,¹ but a close sifting of the evidence has led to

¹ A summary of the question was given by Prof. E. D. Cope in the "American Naturalist," May, 1887, and in various later publications.

increasing uncertainty about this. In the *Megalonyx* beds of the east, no testimony worth mentioning of the discovery of human remains has been published.

These two layers have been supposed to be nearly contemporaneous. Cope places them before the Glacial period, in the Pliocene; Gilbert, on the other hand, brings them down to, or possibly after, the height of the Glaciation. In either case, they appear to mark a period anterior to the time when man reached the area of their deposit.

Following these in sequence come:—

1. The Glacial epoch, a period of elevation in the northern part of the Continent.
2. The Champlain epoch, a period of submergence and tilting of the Continental plain from north-east to south-west.
3. The Terrace formation, during which the present river channels were excavated.
4. The Alluvial or existing epoch, when the actual river-bottoms were formed, and the forest humus slowly created.

The effort has frequently been made to obtain some chronometer by which we could estimate the length of time since the northern areas of our country emerged from the post-glacial waters. One that has been a favourite is the duration required for the excavation of its gorge by the Niagara river. It is perhaps the best. But how little it is worth is forcibly expressed by the latest writer upon its history, Professor Gilbert, "Estimates founded on the same facts range from thousands of years to hundreds of thousands of years."¹

Without attempting the hazardous feat of surmising antiquity in years, I can at least say that the opinion now prevails among careful and cautious students of the subject, that no adequate evidence has yet been adduced to remove the period of the advent of man to the area of the Eastern United States to a date anterior to the existing or alluvial epoch.

In the Lookout cave in Tennessee, Mr. H. C. Mercer exhumed the bones of the tapir in undisturbed relation to pottery and arrow-heads; but there is no reason why the tapir, which now lives as far north as Oaxaca, Mexico, may not have wandered in recent centuries up the valley of the Tennessee river.

It is highly probable that in the valley of the Delaware river chipped implements have been met with in immediate relation to the bones of the American reindeer or cariboo and with the peccary. The latter still lives in Texas, and the former in Maine, and that they should have met in comparatively recent ages in the Delaware valley would not be surprising.

¹ G. K. Gilbert, "Niagara Falls and their History," New York, 1895. (Published by the National Geographic Society.)

The equus beds and the megalonyx layers are the most recent geological horizon in the territory under consideration which contain the remains of extinct mammals. Were the relics of man, either his bones or his implements, exhumed in undoubted original deposition in these strata, the palæontological evidence would be sufficient to assign him a high antiquity on this continent. No such discoveries have yet been made, or at least satisfactorily reported.

The stone implements which I have seen from the equus beds included axes grooved for the attachment of handles and stemmed arrow-heads, just like those of the modern Indians.

It has often been asserted that there is evidence of the contemporaneity of man and the mammoth (or mastodon) in the Eastern United States. That were quite possible without carrying the date of the event to any remote age. The mammoth probably became extinct within the alluvial period. It is even believed by some careful students that its existence was remembered by the Delaware Indians, and its appearance described in their traditions.¹

The culture-horizon of palæolithic man is agreed by all to have been manifestly lower than that of neolithic times. Pottery was unknown, no formal burial or incineration of the dead took place, objects connected with worship are generally absent, compound implements—those where blades are attached to shafts—and delicate secondary chipping, all belong to an epoch of development considerably later than the earliest.

Such a primitive culture-horizon has not been discovered in the United States. The dressed stones from the auriferous gravels of the Pacific slope are as skilfully shaped and finished as those of the historic Indians; and nowhere on the eastern coast has any other culture conditions than those of the Indian been demonstrated.

If we were asked where to search for the oldest stone implements, we should naturally say, following European precedents, either in the shell-heaps along the Atlantic seaboard; in the gravels and oldest village sites of the river-beds; or in the caves of the Appalachian mountains. The shell-heaps have been searched with painstaking minuteness from Maine to Florida; the river-beds and gravels have been sifted with like diligence; and Mr. Mercer has lately subjected the caves to the most thorough explorations; and with what results? That nowhere has a trace of a population in a different culture stage to that of the modern Red Indian been discovered, and this we must call

¹ The evidence is collected in Mr. H. C. Mercer's volume, "*The Lenape Stone*" (New York, 1885).

modern, that is, distinctly neolithic. In the instances of the Trenton gravels (C. C. Abbott) and the Potomac Valley (Thomas Wilson), the supposed palæolithic finds appear to have been shown to be modern by the recent minute local studies of Holmes and Gerard Fowke.

The evidence from the moraines in Ohio has been persistently defended by Professor Wright,¹ and it is unquestionably stronger than any from the Atlantic sea-board; but the few specimens whose history is clear do not present any defined palæolithic features, and other geologists doubt the age of the deposit which contained them.

I need not speak of the importance of determining that an ancient implement-bearing stratum has not been *remanis*—disturbed by later action. This is familiar to all archaeologists. But the processes and results of such disturbances have been extended by close observation. The upturning of the soil by falling trees, the deep holes excavated by certain animals, the pits left by the decaying tap-roots of some trees, the cracks and rifts occasioned by extreme droughts or keen frosts, offer facile means by which instruments lying on the surface could be carried to considerable depths in practically undisturbed strata beneath them.

There is also a continuous shifting or secular motion in gravel beds, when not entirely horizontal, due to gravity, which leads to a constant though very slow readjustment of their component parts. By this agency not only does the lateral talus of such beds become deceptively like an original deposition, but large trenches and cuts caused by freshets or other agencies close up, and thus may cover implements which have fallen in from the surface. For this reason the Trenton post-glacial gravels, and the extensive terminal moraines of the great Canadian glacier which extend from New York harbour to the Mississippi river, must be examined with constant caution. They have both yielded numerous alleged "palæoliths." But not under conditions which remove all doubts of the action of the above agencies.

I conclude, therefore, by the statement that in the Eastern United States, a region in which I have visited most of the important stations and seen most of the typical collections, the oldest stone implements present nothing in form or appearance, and have not in the history of their discovery any sure connections, which would convey them in time or in art development to an earlier people or culture than that of the American Indian, as he was found by the earliest European voyagers.

¹ G. F. Wright, "Man and the Glacial Period" (New York, 1892).

MR. H. W. SETON-KARR exhibited, at a Meeting which took place on May 12th last, a collection of stone implements discovered by him in Somali-land and said: "My remarks will only occupy a few minutes; the how, where, and when of this discovery have already been published in the February Number of the 'Journal.'"

"During the last glacial period, human population must have been massed in the equatorial region of the globe. I found certain spots on the Egyptian plateaux on my way home from Somali-land, as well as in Somali-land itself, where the surface had not been subjected to fresh deposition of soil, and where constant denudation had kept it free from vegetation.

"These circumstances being favourable, I have found more paleoliths in Egypt than in Europe, more in Somali-land than in Egypt; and I hope Africa may eventually be shown to have been man's original home. We are all of us anxious for fresh links in the chain of evidence as to the location of the cradle of the human race, if there was one, whether by the term we mean the Garden of Eden and take that part of the Bible narrative literally or no.

"Some have tried to show that the Garden of Eden was in Africa, towards the sources of the Nile, the four rivers which watered it being the four well-known chief rivers of Africa, with particular reference to the Nile. In this case these implements would have a special interest, coming from the land called by the ancient Egyptians the Land of Punt, not far from some of the Nile sources."

After some remarks on the probable use of similar implements by the first progenitors of the human race Mr. Seton-Karr continued: "How remote such a period was we learn from Sir John Lubbock, who has told us in his 'Prehistoric Times' that the evidence from the depth of gravel deposits and cave stalagmite deposits, together with astronomical evidence of the date of the last glacial period, point to as long ago as two hundred and fifty or even three hundred thousand years.

"How old these implements are or are not, no one can say; but I think our learned friends will agree that no flint implements with so great an *aspect* of age have been found before. Though discovered in the same district, they may be connected with different types, ages, and races, through long periods of time. With Sir John Evans' permission I will quote the concluding sentences of his communication to the Royal Society on April 27th last:—

"That the cradle of the human family must have been situated in some part of the world where the climate was genial,

and the means of subsistence readily obtained seems almost self-evident; and that these discoveries in Somali-land may serve to elucidate the course by which human civilisation, such as it was, if not indeed the human race, proceeded westward from its early home in the east is a fair subject for speculation. But, under any circumstances, this discovery aids in bridging over the interval between palæolithic man in Britain and in India, and adds another link to the chain of evidence by which the original cradle of the human family may eventually be identified, and tends to prove the unity of race between the inhabitants of Asia, Africa, and Europe, in palæolithic times."

Sir JOHN EVANS expressed an opinion that though the Somali-land implements had been found upon the surface and unaccompanied by any mammalian or other remains indicative of great antiquity, yet from their numbers and their general *facies* they might safely be assigned to a palæolithic period. The perfect resemblance, on the one hand, of some of them to those of France and England, and on the other hand of many of those in quartzite to the implements from the laterite deposits of India was most striking. These Somali-land discoveries aided much in bridging over the interval between the traces of Palæolithic man in the East and in the West, and without assuming any synchronism, he thought that they might be indicative of the route taken by early man from his presumed cradle in a genial climate to the colder regions of North-western Europe. The curious shelling off of the *patina* or white silicious coating from some of the implements seemed indicative of long exposure to atmospheric influences to enable such chemical changes to have taken place.

Mr. READ concurred with Sir John Evans in the great interest and importance of Mr. Seton-Karr's discovery, and called attention to the occurrence in the Somali-land series of the type of implement identified with Moustier, as well as the ordinary drift types, such as are commonly found in England and France. While he thought it very probable that Mr. Seton-Karr's find was of palæolithic period, from his account of the conditions under which the implements were found, yet at the same time he would venture to urge that the superficial appearance of implements was but slender evidence for assigning them to palæolithic times. He would prefer to rely upon the more secure foundation of the age of the stratum from which they were derived, which alone is a sure indication of date. He hoped that Mr. Seton-Karr would before going out again furnish himself with the data necessary for settling this important question.

ANTHROPOLOGICAL MISCELLANEA AND NEW BOOKS.

Readers of the Journal are invited to communicate any new facts of especial interest which come under their notice. Short abstracts of, or extracts from letters will be published at the discretion of the Editor. Letters should be marked "Miscellanea" and addressed to The Secretary, 3, Hanover Square, W.

Vocabulary and Grammatical Notes on the Language of Makura, Central New Hebrides. Compiled by SIDNEY H. RAY, Memb. Anthropol. Inst. Great Britain and Ireland.

The island of Makura is situated about ten miles north of Nguna or Montagu Island, midway between Efate and Epi, in the south central portion of the New Hebrides Group. It is of volcanic origin with hills about 600 feet high. The population is about 1,000.

For the materials from which this sketch was compiled I am indebted to the Rev. Oscar Michelsen, Presbyterian Missionary on the island of Tongoa.

This language is spoken on the islands of Makura, Tongariki, Buninga, Ewose, and Mataso. It is also spoken on part of the island of Tongoa. Another language spoken on Tongoa is somewhat different and is substantially the same as that of Nguna or Montagu Island. (*Cf.* Nguna Grammar, in "Jour. Anthropol. Inst.," 1887, p. 409.) The Makura language, under the name Tongoa, is noticed in Dr. Codrington's "Melanesian Languages," p. 471.

§ 1. Alphabet.

Vowels: *a, e, i, o, u.*

Diphthongs: *ai, au, æ.*

Consonants: *k, c, g; t, d; p, b, v, f, w, s; m, n, ñ; r, l; y, h, s.*

The vowels and diphthongs are sounded as in German, *æ*, being the sound of *ae*, as in *hände*.

The consonants *k, t, w, m, n, r, l, h, s*, are sounded as in English. *C* is *ngg* as English *ng* in *finger*, *g* is *ng* as in English *sing*; *d* as *nd* in English *under*, with a slight trill; *p* as English *p* in *pit*, or *b* in *bat*; *v*, as in English or German; *f* as *ngbw*; *ñ* as *ngm*; *y* as in English *yes*.

§ 2. Nouns.

Nouns are distinguished by the article *na*, which is, however, not used with proper names.

There are two classes of nouns. The first class takes a suffixed possessive pronoun and comprises the names of relationships, parts of the body, or of things in close connection with the possessor; other nouns take a separate possessive word. In the vocabulary nouns which take the suffix have * prefixed.

A verbal noun is formed by the suffix *an*, the article being usually prefixed. *Nalegan*, singing; *nadogan*, hearing. The person or thing performing an action is shown by the prefix *taka*, which corresponds to the Nguna and Efate *tea*. *Taka ni nadogan*, hearer.

Persons belonging to a place are called its children.

Nati Togoā, people of Tongoa.

The plural sign is *emag* (Ngunā and Efate *maga*) following the noun. *Abau* is also used.

Collectives are made by the nouns *natau*, heap, and *namoke*, bunch.

Sex is distinguished by the addition of the words *natañian*, male, or *navarina*, female.

The common nouns *kelama*, father, and *kepila*, mother, become *kepopo*! my father! and *anu*! my mother! in the vocative.

Arrow, <i>nae</i> .	Father (voc.), <i>kepopo</i> .
Ashes, <i>natororom̃</i> .	* Feather, <i>navili</i> .
Banana, <i>navih</i> .	* Finger, <i>nawirikikiv</i> .
* Belly, <i>natia</i> .	Fire, <i>nakam</i> .
Bird, <i>naman</i> .	Fish, <i>naik</i> .
Blood, <i>nadah</i> .	Fly, <i>nalag</i> .
Boat, <i>nararu</i> .	Food, <i>navinag</i> .
* Body, <i>napatoko</i> .	* Foot, <i>na lao</i> .
Bone, <i>nasu</i> .	Fruit, <i>nawiti-na-ke</i> .
Bow, <i>navih</i> .	Ground, <i>natane</i> .
Boy, <i>nataruse</i> .	* Hair, <i>navili</i> .
Breadfruit, <i>nabatava</i> .	* Head, <i>napai</i> .
Bunch, <i>namoke</i> .	Heap, <i>natau</i> .
Butterfly, <i>natabebe</i> .	House, <i>nañia</i> .
Canoe, <i>nararu</i> .	* Inside, <i>napalan</i> .
Child, <i>naturuseh</i> .	Island, <i>naure</i> .
Clothes, <i>na loni</i> .	Land, <i>naure</i> .
Club, <i>naoñi</i> .	Leaf, <i>namitian</i> .
Cocoanut, <i>naniw</i> .	Light, <i>namaram</i> .
Country, <i>naure</i> .	* Lip, <i>nakogo</i> .
Darkness, <i>namalig</i> .	Louse, <i>nakit</i> .
* Ear, <i>natiliga</i> .	Man, <i>naata</i> .
Evening, <i>daravih</i> .	Mast, <i>native</i> .
* Eye, <i>namata</i> .	Moon, <i>nakibati</i> .
* Father, <i>kelama</i> .	Mosquito, <i>namamamam</i> .

*Mother, *kepila*.
" (voc.), *anu*.

Mountain, *natavi*.

*Mouth, *nakorogo*.

*Name, *nakiha*.

Night, *efog*.

*Nose, *kinihi*.

Pit, *namore*.

Plant, *nakeh*.

Rain, *naih*.

Rat, *nakahow*.

Road, *nahale*, *nahelemati*.

Root, *nakili keh*.

Sail, *nake*.

Salt, *natasimen*.

Sea, *natah*.

Shadow, *namela*.

*Side, *sinia*.

Sky, *na rikiti lagi*.

Smoke, *naah*.

*Son, *nati*.

Spear, *natoke*.

Star, *namake*.

Stone, *navata*.

Sun, *naale*.

Tongue, *namena*.

Tree, *nakeh*.

Village, *natokean*.

Water, *naran*.

Wave, *nabeo*.

Wind, *nalag*.

Woman, *navavine*.

Women (plural), *naviririki*.

Yam, *nao*, *nau*.

§ 3. Pronouns.

1. The personal pronouns are:—

Singular: 1. *Keino*; 2. *Kaig*; 3. *Kinini*.

Dual and plural: 1. (inclusive of person addressed), *Keicite*; (exclusive), *Keicem*; 2. *Kami*; 3. *Keniare*.

The dual and plural are only distinguished by the verbal particles.

2. The personal pronouns suffixed to verbs and prepositions are:—

Singular: 1. *-oh*, *ioh*; 2. *-ak* *-iak*; 3. *-in*.

Dual and plural: 1. (incl.) *-cit*, (excl.) *cem*; 2. *cam*; 3. *iniri*.

3. The possessive pronouns suffixed to nouns of the first class (marked with * in the vocabulary) are:—

Singular: 1. *-g*; 2. *ma*; 3. *-n*.

Dual and plural: 1. (incl.), *-icite*; 1. (exclus.) *-icem*; 2. *-icam*; 3. *niare*.

4. With nouns of the second class the words *agi* and *mini* are used with suffixes as possessive pronouns. *Agi* denotes a thing possessed by any one, *mini*, a thing done for any one. *Naima agino*, my house; *naima minio*, a house for me.

Singular 1.	<i>agino</i>	...	<i>minio</i> .
2.	<i>amain</i>	...	<i>miniake</i> .
3.	<i>anini</i>	...	<i>minini</i> .
Dual and plural 1. (inclus.)	<i>nicite</i>	...	<i>minicite</i> .
1. (exclus.)	<i>anicem</i>	...	<i>minicem</i> .
2.	<i>acami</i>	...	<i>minicami</i> .
3.	<i>aniare</i> , <i>niare</i>	...	<i>miniare</i> .

These words correspond to the Nguna *agi* and *magi* which are used in the same way. The Nguna *kaka*, a thing belonging to, is represented in Makura by the word *ena*. *Enan*, its belonging, a thing belonging to it.

5. Interrogative pronouns.

These are : *Kehe* ? who ? *Ibe* ? what ? which ? *Nakihan kehe* ? his name who ? *Taka ibe* ? which one.

§ 4. Adjectives.

Adjectives usually follow the noun. The word for "bad" shows the prefix *ta*. The prefix *ma* of condition as in Nguna and Efate is very commonly used.

Bad, *taha, aha*.

Black, *maete*.

Clean, *woh, poh*.

Dirty, *taha, aha*.

Good, *woh, poh*.

Hard, *gira*.

Heavy, *marah*.

Holy, *tam*.

Large, *lam*.

Light (not heavy), *marara*.

Like, *hinik*.

Red, *lulu*.

Small, *susuñi*.

Soft, *malimilim*.

Thick, *matolu*.

Thin, *manivinivi*.

White, *pilarili*.

§ 5. Verbs.

1. Verbs are distinguished by verbal particles which appear to be (as in Nguna and Efate) shortened forms of the personal pronouns. These particles are :—

Singular : 1. *ni* ; 2. *ko* ; 3. *i*.

Dual : 1. (incl.), *ta* ; 1. (excl.), *mo* ; 2. *ka* ; 3. *ra*.

Plural : 1. (incl.), *ti* ; 1. (excl.), *mo* ; 2. *ki* ; 3. *ri*.

In the dual first person *andu* is sometimes added to *ta* and *mo*. The particles are used with or without the personal pronouns.

2. The causative prefix *paka* is seen in *pakale*, to feed, and with adverbs.

3. The sign of quotation is *iga*. *Betog iga pa row*, he said that he would go. Nguna, *E noa naga ega vano*. This also expresses the conditional mood. The adverb *pe* also makes the verb conditional.

4. Continuous or repeated action is shown by *noko*, preceding the verb.

5. Reciprocal action is expressed as in Nguna and Efate by means of a noun *dipo*. (Nguna, *tuma*.)

Ti diponigiti iligiti, we strike one another.

Ki diponicam iligicam, you strike one another.

Ri diponiare iliginire, they strike one another.

6. The imperative is expressed in the singular by *ko*, in the plural by *ki*, preceding the verb. The prohibitive is *to ko pa* in the singular, *te ku* in the plural.

7. A wish is shown by the verb *masauna* as in Nguna. *Ni masauna pa arah*, I wish him to come.

8. The interrogative is usually expressed merely by the intonation, but if it is wished to be explicit the word *ne* is placed at the end of the sentence.

9. Tense.—The past seems to be the normal tense ; the present is sometimes distinguished by the words *no* or *noko*. What has just happened is expressed by *mo*. The future sign is *pa mo*.

All these precede the verb. A completed action is marked by *na* following the verb.

10. The directives *dah*, hither, and *lu*, away, are seen in the words for "bring" and "take."

Bite, *cat*.
Bring, *halae-dah*.
Burn (*trans.*) *lualu*.
Carry (*on shoulder*), *ligon*.
Collect, *bili*.
Come, *dah*.
Cry, *are*.
Dance, *bah*.
Dig, *cili*.
Do, *poh*.
Drink, *munum*.
Eat, *cinikan*.
Feed (*trans.*), *pakale*.
Fight, *biviati*.
Give, *ori*.
Go, *dow, row*.
Go away, *turo*.
Hear, *dog*.
Know, *ata*.
Make, *poh*.

Plant, *lau*.
Say, *betog*.
See, *loh*.
Sell, *sori*.
Shoot (*with gun*), *lu*.
Show, *biheik*.
Sing, *leg*.
Sit, *arah*.
Sleep, *matiri*.
Speak, *calakala*.
Spear (*pierce*), *biherik*.
Stand, *batok*.
Strike (*with stick*), *ilig*.
Take away, *halae-lu*.
Tear (*rend*), *bah*.
Throw, *dite*.
Tie, *mini*.
Walk, *daliu*.
Weep, *are*.
Wish, *masauna*.

§ 6. *Adverbs.*

Below, *etane*.
Day after to-morrow, *powaith*.
Day before yesterday, *namino*.
Down, *etane*.
Far off, *eso*.
How? *ka ibe?*
Like, *hinik*.
Near, *simig*.
No, *eh*.

So (hence), *e arog*.
Thus (this way), *hinik*.
To-morrow, *baabog*.
Up, *ehak*.
When? *na ih?*
Where? *idin?*
Why? *paka ibe?* (like what?)
Yes, *ia*.
Yesterday, *nanove*.

§ 7. *Prepositions.*

Before, (in front of) *ami e, namatana*.
Behind, *etake*.
By near, *sisi*.
From, *coe*.
In (inside of), *naḡalau*.

Of, *ni*.
To, towards, *piki*.
Under (under shadow of), *namela*.
With, *hikoti, maheru*.

Namatana, naḡalau, and *namela* are nouns, face, bowels, shadow. *Hikoti* and *maheru* are verbs, to be with.

§ 8. *Conjunctions.*

And, *ne*.
Also, *ma*.
But, *ke*.

Or, *ne*.
Therefore, *naḡotiren arog*.

"If" is expressed by making both sentences conditional, *pe . . . pe*. *Ma* is used for "and" with persons. *Ioane ma taman*, John and his father.

§ 9. Exclamations.

Alas! *Pi!* Oh! *epe!* Of pain, *Ake!*

§ 10. Numerals.

1. Cardinal: 1, *sikitek*; 2, *iru*; 3, *itole*; 4, *icati*; 5, *ilime*; 6, *lati*; 7, *laru*; 8, *latole*; 9, *luite*; 10, *dualima*.

In counting *iti* is used instead of *sikitek*. The unit above ten is *tacore*. 11, *dualima sikitek tacore sikitek*; 12, *dualima sikitek tacore iru*; 20, *rualima iru*; 30, *rualima itole*; 100, *ponuti sikitek*.

2. Ordinal: These are formed by prefixing *ke* to the cardinal. Second, *keru*; third, *ketole*; first is *diami*.

3. Multiplication is expressed by prefixing the causative *paka*; *pakaru*, twice.

4. The interrogatives are: *ri bih?* how many? *paka vih?* how many times? *Vih* is the common *visa*.

I have no texts in the Makura language. As the island is very small and the Tongoa-Nguna language is very widely spread among the adjacent islands, an endeavour will, no doubt, be made to bring the latter language into general use. For comparison the Rev. O. Michelsen gives the opening clauses of the Lord's Prayer. I have added the corresponding parts in the neighbouring dialects.

MAKURA.

Popo aniceme arai ko doko narikitilagi doko. Nakihaña pa taka tam. Namarakeana maine pa arah. Namasauniana maine ru woh varemane pa hiniki ri noko pok' narikitilagi.

TONGOA-NGUNA.

Mamaginami waina ku toko nakoroatelagi toko. Nagisaña ega tapu. Namarakiana anigo ega umai. Namasauna anigo ega mari a maramana, ega lakiusi waina eu to mari a nakoroatelagi.

EFATE: HAVANNAH HARBOUR.

Temagami o naga ku mato naburon. Aginago nagiema ega tab. Aginago namerameran ega fanamai. Aginago namarakarau ega toke, takanoan e to naburon, takanoanaga ega mera to intano.

EFATE. ERAKOR.

Temam nag ku tok elagsau, Nagiem ke tab. Namerameran nigag ke fakor. Ruk frig te nag ag ku murin emeromina nin, taosi kin ru tok brig i elagsau.

EFATE: DIALECT NOW USED IN TRANSLATIONS.

Temagami o uane ku toko elagi. Nagiema iga tab. Namerameran anago iga mai. Ruga bati te uane ku mesau na emeromina, bakaali san ru toko bat ia elagi.

TASIKO: ISLAND OF EPI. N.E. OF TONGOA.

Arimamemi nage pa teke peni. Soña ki e ki uca. Soña naurarena imi. Natneffania soña a tapā yomarava, e sipa nage pa a ntapa mava e peni.

"Antropometria Militare." Risultati ottenuti dallo Spoglio dei Fogli Sanitarii dei Militari delle Classi 1859-63, eseguito dall'Ispettorato di Sanità Militare per ordine del Ministero della Guerra; Incaricato della Direzione dei Lavori, Dr. Ridolfo Livi, Capitano Medico. Parte I, Dati Antropologici ed Etnologici (Rome, 1896).

With the American War of Secession, the study of man, both from the physical and mental side took a new departure, which has already yielded most satisfactory results, especially in those states where the conscription is a permanent institution. The example set by the Washington Government of publishing carefully prepared digests of the medical and anthropological data supplied by the examination of over a million recruits summoned to arms during the sixties naturally found numerous imitators elsewhere, and thus was rapidly developed a new branch of anthropological science commonly, though somewhat inadequately, called "Military Anthropometry." Almost every civilised state has now its medical or sanitary bureau attached to the War Office, where are collected, digested, and from time to time published, all kinds of medical and anthropological statistics derived from the inspection of the conscripts or recruits that are annually either rejected or drafted into the service. The great value of these summaries is due in part to the large number of "subjects" dealt with, and partly also to the generally high character of the inspectors, all specialists, whose efficiency is thoroughly secured by the wide field of observation placed at their disposal.

Thanks to this combination of favourable conditions, the sumptuous volumes prepared by Mr. B. A. Gould for the United States Sanitary Commission (1869), and by Dr. J. H. Baxter for the Washington War Department (1875) have been followed by a whole series of similar publications issued from time to time by the Governments of Bavaria, Saxony, Switzerland, Belgium, Austria-Hungary, and several other European States. Amongst these official contributions to anthropological studies a high place must be assigned to the compilation under notice, which has been issued by Dr. Ridolfo Livi, on the staff of the Sanitary Bureau attached to the Italian Ministry of War. We learn from a preliminary notice that the work has been published with the consent of the War Office by the directors of the *Giornale Medico del Regio Esercito*, and that it is "the final outcome of the patient labours of the military sanitary body, which has for many years been charged with the compilation of the sanitary publications." Special reference is made to the services of the Medical Commissioner, Colonel

Salvatore Guida, who is credited with the idea of having originated and given effect to the project of issuing the valuable periodical statistical records which are summarised in the present work.

The first part of this elaborate compilation deals exclusively with strictly anthropological and ethnological statistics, which are conveniently arranged in three separate divisions. First comes the *TEXT*, which, in seven chapters, discusses the various aspects of general and military anthropometry; and here the inadequacy of the term "Anthropometry" is at once made evident. These comparative studies are by no means limited to "measurements" of the human body, such as were made on the Roman conscripts even under the Republic. Besides stature, weight of body, cephalic indices, width of chest, and so forth, attention is also paid to the colour of hair, eyes, and skin, to the structure of the hair, the face, nose, gnathism, and similar physical characters. Extensive observations are even recorded on the correlation of these characters both to each other and to the varying conditions of the environment and of the social position of the conscripts from all parts of the kingdom. Thus copious materials are afforded for studying the influence of altitude above sea-level, of rural or urban districts, of the industries and other pursuits on the stature, complexion, colour, and quality of the hair, and so on. In the last chapter of the *Text* we have a critical survey of the whole ground, the recorded results being taken in geographical order from north to south (Piedmont to Calabria), concluding with the islands of Sicily and Sardinia. Corsica, unfortunately, is excluded, as belonging politically to France, though it would certainly have been most convenient to have the French returns for that Italian island introduced for comparative purposes.

In the second division are comprised the *STATISTICAL TABLES*, by far the largest and most valuable section of the work. There are altogether twenty-three of these tables, making 420 large 4to pages, in which are systematically disposed the details of the above described characters for every commune, circle, and province of the kingdom, as determined by the inspection of the conscripts for the five years 1859-63.

There follows in a separate volume, the third division, which is entitled an "Atlas of the Anthropological Geography of Italy," and which may be briefly described as a graphic representation of the results of the statistical details comprised in the second division. Here are brought together a large number of coloured maps of the peninsula and islands, on which the relative proportions of the indicated characters in the different provinces and districts are clearly shown by the usual device of corresponding shadings. These extremely useful and admirably executed maps are supplemented by a series of diagrams, in which the stature, cephalic index, correlation of colour of eyes to colour of hair, correlation of stature to colour of hair and cephalic index, variations of structure of the hair, complexion, height of forehead, shape of nose and mouth according to stature, are indicated by a simple linear

graphic method for all the chief administrative divisions of the kingdom.

Some of the broad generalisations, which seem justified by an attentive study of the rich materials embodied in this monumental work, are extremely interesting. Thus, speaking generally, stature, the fair type, the cephalic index, red hair, florid complexion, aquiline nose, and full chest, are all found to decrease steadily in the direction from north to south. Specially noteworthy is also the astonishing uniformity of the physical characters in Sardinia. Here there would almost seem to be no averages, but only extremes on one side or the other throughout the whole extent of the island. These primitive and long secluded populations, probably the direct descendants of early neolithic man, slightly modified by later interminglings, present no greater diversity in their physical characters than the Andamanese islanders themselves. Hence in the various series of geographical maps of the Atlas, that of Sardinia is invariably distinguished by the deepest shadings, that is, those which mark the extremes either way. Thus the great bulk of the natives have the shortest stature, the brownest eyes and hair, the most dolichocephalic heads,¹ the swarthiest complexion, the narrowest chests of all the Italian populations. "They consequently form quite a distinct variety amongst the Italian races, which is natural enough when we remember the seclusion in which this island has remained for so many ages." (Text, p. 182.)

But perhaps enough has been said to indicate the general character, contents, and importance of this first contribution of the Italian Government to the new-born science of "Military Anthropometry." Some day, though it is to be feared not in our time, the English War Office may also perhaps be induced to bestir itself and take an active part in this supremely useful work.

A. H. KRANE.

"The Principles of Sociology, an Analysis of the Phenomena of Association and of Social Organisation." By F. H. Giddings, M.A., Professor of Sociology in Columbia University. Macmillan and Co. 8vo. 12s. 6d. net.

"The time has not come for an exhaustive treatise on Sociology. Nevertheless . . . there are principles of Sociology, and they admit of logical organisation. The present work is an attempt to combine the principles of Sociology in a coherent theory. Believing that Sociology is a psychological science, and that the description of society in biological terms is a mistake, I have endeavoured to direct attention chiefly to the psychic aspects of social phenomena. Association and social organisation I have attempted to explain as consequences of a particular mental state,

¹ It is shown in my "Ethnology" (p. 149) that the first neolithic peoples of West and South Europe were long-headed and not round-headed, as is commonly supposed.

namely the consciousness of kind, which is defined as a state of consciousness in which any being . . . recognises another being as of like kind with itself."

These introductory passages sufficiently define Prof. Giddings' general position. His succinct and thoughtful treatise consists of four books, of which the first and fourth are more purely theoretical, while the second and third are descriptive. In the first book he assigns to his science its due place in the hierarchy, and demonstrates its right to an independent existence. Biology as the general science of life must precede Psychology, the science of the individual mind: but Psychology in its turn must precede Sociology, which is the science of the association of minds. "In their philosophical relations, therefore, Biology, Psychology, and Sociology are sciences corresponding to a gradation of phenomena which at each step become more complicated and involved."

But if it must be subsumed under the more comprehensive sciences of life and mind, Sociology is itself more comprehensive than the particular social sciences, &c. Nor is it merely equivalent to the sum of these. Just as Biology fought its way to recognition as an independent science forming a foundation for Botany, Zoology, and Physiology, so has Sociology to fight its way against the philosophy of History, Ethnology, and the Political Sciences. The argument may be resumed thus: "Sociology is differentiated from Psychology just as Psychology is differentiated from Biology. The special social sciences are differentiations of Sociology." Sociology is consequently nearer to Psychology than to Biology. Finally the student of Sociology must make himself acquainted at least with the rudiments of the sciences of life and mind, just as the student of the special social sciences must make himself acquainted with the rudiments of Sociology. Otherwise they will resemble students of Astronomy or Thermodynamics who have not troubled to learn the Newtonian laws of motion. Adopting, with certain modifications, Mr. Spencer's classification of the sciences in preference to Comte's, the author explains how Sociology is a concrete science. It is "a descriptive, historical and explanatory account of society regarded as a thoroughly concrete reality" (p. 40).

But as the abstract and the concrete sciences are not isolated but mutually traverse and react upon each other, so that, to employ a modern political phrase, their spheres of influence in many cases overlap, so the method which is more peculiar to each must not be exclusively employed, but reinforced by the application of the method peculiar to the other. In other words, though induction is more particularly the method of the concrete sciences, and deduction that of the abstract, both must use a combination of the two methods, though in a different proportion. Thus, although the student of Sociology will begin by induction, he must conclude by a synthesis: he must learn to compare deductions from subjective premises with the observed facts compiled through the comparative and historical methods. Social facts have laws and

conditions of their own, for they are psychological units, and volition enters largely into their composition; and if these laws are not discovered, Sociology will remain a "*ruens acervus*," a mere Sorites without cohesion. But this subjective and more difficult side of social science should be treated last, and not as so often hitherto, built up first like a house without proper foundation.

Bearing this necessity in mind, we shall find that the problems of Sociology fall into two main classes, *The Primary* or descriptive, which are concerned with social structure and growth, and may be considered both from the comparative and the historical standpoint; and the *Secondary* or theoretical, concerned with social process, law and cause, i.e., with "successive steps in the interaction of physical forces and conscious motives."

In accordance with this division, the introductory book is followed by the descriptive part of the treatise. Book II deals with the primary problems from the comparative side, as e.g., Aggregation, Association, Social Composition and Social Constitution. Book III treats the same problems from the historical or evolutionary point of view, as Zöogenic, Anthropogenic, Ethnogenic and Demogenic association. With Book IV the discussion becomes once more theoretical. The author examines the interaction of physical and psychical causes, with such difficult points as imitation and social choice; limitation and survivals; and the final conception of society as an organisation for the development of humanity.

Whether Prof. Giddings' theories find universal acceptance or not, his book is very valuable as a compact and practical guide through the maze of sociological speculation. It is systematic and clearly reasoned throughout.

It will be gratifying to Fellows of the Anthropological Institute to note that many of the facts quoted in the descriptive part of the work are gleaned from past numbers of the *Journal*.

There is an index, and a good bibliography.

"Through Jungle and Desert, Travels in Eastern Africa."

By William Astor Chanler. Macmillan, 1896. 535 pages.

Although he made no discovery of equal importance with that of Lakes Rudolph and Stephanie, Mr. Chanler's voyage was not unproductive of valuable results both from geographical and ethnological points of view. He explored the Tana district and the country to the north-east of Mt. Kenia in company with Lieutenant von Höhnelt, and experienced in their full measure the vicissitudes of African travel.

The principal tribes with which the expedition came in contact were the Galla, Pokomo, Daiteho, Embe, Msara, and Rendile.

The Galla and the Pokomo dwell along the Tana River. The latter are a simple, kindly people kept in subjection by the Galla, by whom they are protected against the raids of the Somali and Wakamba.

The Daitcho, Embe, and Msara are tribes living about the Jombeni range. The two former are agricultural peoples with a fixed territory. The Daitcho are a less powerful tribe than the Embe and are in a measure subservient to them. Of the Embe and their customs, the author writes at some length. They are a numerous and formidable tribe. Their customs in many ways resemble those of the Masai, especially with regard to the influence of matrimony upon the status of a warrior. Mr. Chanler, arguing from the analogy of language, supposes the tribes of the Jombeni range to be immigrants from the Kikuyu of Mt. Kenia. The Embe, like the Msara, take no thought for their dead, but cast the bodies to the hyenas.

The Msara are a war-like people, armed after the fashion of the Masai, with whom they appear to be akin. With them the expedition had to fight quite a pitched battle. They inhabit the west slopes of the Jombeni range.

The most interesting tribe encountered was the Rendile; and to have reached these people the author considers his most important achievement. "They were a tall, thin race, reddish brown in colour, with soft, straight, closely cropped hair, features almost Caucasian in their regularity, and fierce blue eyes." The Somali in the expedition were fascinated by their appearance and said: "These are like our people: they must be Mohammedans." Many words in the Rendile tongue were declared by the Somali to be familiar to them. The Rendile are nomadic, possessing large herds of camels, horses, sheep, and donkeys: they range over the country south-east of Lake Rudolph. They have a curious custom of cutting out the navel, leaving a small round hole. They themselves denied all relationship with the Somali or the Galla, the author conjectures that they may have come down from the far North, and adds: "perhaps in some way they are allied to that mysterious people called the Shepherd Kings, who, thousands of years ago, inhabited Egypt." The Rendile bury their dead in a sitting posture in a hole covered by a cairn of stones. They proved an impracticable people to deal with.

A point of some interest is the occurrence of Beloochi traders in the interior of East Africa. It is probable that the close relations between the Sultans of Zanzibar and Muscat explain their appearance so far from their homes.

Mr. Chanler's book forms one of the most interesting books of African travel that have appeared for a long time: he has used his great powers of observation to advantage, and it is to be hoped that this voyage, which was not his first, may not be his last. It is greatly to be regretted that untoward events cut short his expedition before it had reached its legitimate conclusion. His book, which is full of sporting adventures and interesting facts, is illustrated, and provided with two excellent maps as well as an admirable index.

"The Wild North Land." By General Sir W. F. Butler, K.C.B. Tenth Edition. Sampson Low, Marston & Co. 1896. 12mo. pp. 358. Few books of travel run through as many editions as this, and its continued popularity testifies to its merits. Starting from Fort Garry on the Red River in the early seventies, the author travelled northwards to Lake Athabasca; he then turned westwards, and following the course of the Peace River through the Rocky Mountains, moved southwards through British Columbia to the neighbourhood of New Westminster. The track thus lay through the territories of the Assiniboines, Crees, Chipeways and Beavers, of all of whom General Butler has something to say. His enthusiastic love for the great solitudes, and the mighty rivers and mountains of the north-west, finds its expression in an admirable descriptive style, the truth and poetry of which will be felt by all who have ever seen the prairies or crossed the Rockies. To these qualities the book largely owes this new edition.

"Henry Callaway, M.D., D.D. First Bishop for Kaffraria."

By Marian S. Benham. 12mo. 368 pp. Macmillan, 1896.

With the biographical part of this book we are less immediately concerned than with the 13th and 14th chapters, the work of Miss M. A. Godden, in which a summary of the bishop's labours in the cause of ethnology and philology is given. The author of these chapters has done well to draw attention once more to Dr. Callaway's books, "Zulu Folk Tales and Traditions" and "The Religious System of the Amazulu." The bishop was an indefatigable enquirer, and the result of his studies was a most valuable body of material of the greatest possible interest for anthropological students. One of Dr. Callaway's chief merits lay in his explicit recognition of the importance of carefully discriminating the pure native tradition from all accretions of foreign origin; and in all his researches he constantly acted upon this principle. Of especial interest is his work on Witchcraft and Divination: upon the latter subject he communicated a paper to the Institute in 1871. His pamphlet on the Zulu Language was of great service to philology. Such admirable work, produced during a life subject to incessant interruptions and the claims of his spiritual mission, makes us heartily endorse the author's judgment that comparative research suffered a very great loss when Dr. Callaway entered the Mission Service.

"The American Anthropologist." Vol. ix. Nos. 1-5.

(No. 1.) The Animistic Vampire in New England, by G. R. Stetson. A Contribution to Ethnobotany, by J. W. Fewkes. (No. 2.) Australian Ground and Tree Drawings, by R. H. Mathews. A Vigil of the Gods.—A Navajo Ceremony, by W. Mathews. (No. 3.) Seven Venerable Ghosts, by J. W. Powell.

Expedition to Papagueria and Seriland, by W. J. McGee. (No. 4.) Indian Use of Wild Rice, by G. P. Stickney. Racial Anatomical Peculiarities, by D. K. Shute. Pueblo Snake

Ceremonials, by F. W. Hodge. (No. 5.) The Prehistoric Culture of Tusayan, by J. W. Fewkes. Left-handedness in North American Aboriginal Art, by D. G. Brinton.

"Transactions of the Asiatic Society of Japan." Vol. xxiii. No. 1. The Ōnmun—When Invented? by W. G. Aston. Note sur les Différents Systèmes d'Écriture Employés en Corée. Par Maurice Courant. Tenrikyō; or the Teaching of the Heavenly Reason, by Rev. D. C. Greene. Silver in Japan, by G. Droppers. Comparison of the Japanese and the Luchuan Languages, by Basil Hall Chamberlain.

"American Journal of Psychology." Vol. vii. No. 3. A Study in the Psychology of Religious Phenomena, by J. H. Leuba. Color Saturation and its Quantitative Relations, by A. Kirschmann. Minor Studies from the Psychological Laboratory of Wellesley College. A Study of Dream Consciousness, by Sarah C. Weed, Florence M. Hallam, and Emma D. Phinney. A Laboratory Course in Physiological Psychology, vi, by E. C. Stanford.

"Revue Mensuelle de l'École d'Anthropologie de Paris." Ann. vi. Nos. 1-4. (No. 1.) La Foi et la Raison dans l'Étude des Sciences, par G. de Mortillet. Le Dieu Gaulois de Chaassenon, par Martial Imbert. L'Île de Seins, par Collineau. (No. 2.) Échange d'Activité entre la Terre et l'Homme, par Fr. Schrader. Les Divinités à attitude orientale, par H. Galiment. La Taille dans un Canton ligure, par Ab. Hovelacque. Nouvelle mutilation crânienne néolithique. Le T sincipital, par L. Manouvrier. (No. 3.) Alexandre le Grand, par André Lefèvre. La suture métopique et ses rapports avec la morphologie générale du crâne, par G. Papillault. Hameçons en bois encore employés près de Bordeaux. (No. 4.) L'Éthnogénie des populations françaises, par G. Hervé. Les Pierres percées de la Haute-Saône, par F. Poly. Chronique palethnologique, par G. de Mortillet.

"L'Anthropologie." Tome vii. No. 1. Études d'ethnographie préhistorique, par Ed. Piette. Notes sur les Pakhalla, par le Dr. Macland. Documents ethnographiques sur l'alimentation minérale, par le Dr. Louis Lapique. Les menhirs percés de l'île de Chypre, par Emile Deschamps.

"Field Columbian Museum. Anthropological Series." Vol. i. No. 1. Archaeological Studies among the Ancient Cities of Mexico, by William H. Holmes. Part I. Monuments of Yucatan.

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MAY 12TH, 1896.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The deaths of Dr. WILBERFORCE SMITH and Captain T. KEENE were announced.

Mr. H. W. SETON-KARR exhibited and made remarks upon a collection of Stone Implements discovered by him in Somaliland (see *ante* page 65).

The following papers were read :—

"The Cranial Characteristics of the South Saxons compared with those of some of the other Races of Great Britain." By R. J. HORTON-SMITH, Esq.

"Recent Observations on the Andamanese by Mr. M. V. PORTMAN." By Dr. J. G. GARSON.

"Photographic Apparatus for Travellers." By Dr. J. G. GARSON.

"An unpublished Batak Creation Legend." By HERR C. M. PLEYTE.

The CRANIAL CHARACTERISTICS of the SOUTH SAXONS compared with those of some of the other races of SOUTH BRITAIN.

By R. J. HORTON-SMITH, B.A., Scholar of St. John's College, Cambridge.

OWING to the obscurity that exists with regard to the various races that have from time to time invaded the British Isles, it seemed advisable to make use of the splendid collection of British skulls in the museum at Cambridge, to see how far they could be grouped together by a study of their cranial features. With this object I have examined fourteen South Saxon skulls found at Goring in Sussex and presented to the Cambridge Museum by C. H. Read, Esq., F.S.A. With these were found many Saxon ornaments, proving the skulls to be undoubtedly of early Saxon age. Besides these, I have measured twenty West Saxon skulls, which were dug up in various parts of Berkshire, Wiltshire, Dorset and Somerset, as well as two "Celts-Saxon" skulls from Fairford (Gloucestershire), fourteen Round Barrow skulls, and lastly, twenty-three East Anglian skulls. Most of these last came from Hauxton; five, however, were found in Cambridge itself.

South Saxon skulls.

Of these fourteen skulls, ten are males and three females. The remaining one belonged to a child, of the female sex, I believe, though of this I cannot be quite certain. About half are in a good state of preservation; the rest are rather fragmentary, but do not differ, as far as one can see, in any important respect from the more perfect specimens. Three of these crania were so broken that it was impossible to get any of the usual indices from them. I have calculated the indices of the child, but of course they have not been included in the attempt to deduce the typical indices. These have been drawn from the remaining ten skulls. It is a small number, but there were no more at my disposal.

Cranial capacity.—There is a fairly close resemblance between the various crania, as regards their capacity. I was only able to take the capacities of five of them (all males), but four of these agree almost exactly in being just megacephalic, with an index of 1480. This is a good deal below that of the modern English skull, which, according to Topinard, is about 1560. The index of the fifth skull does approach this latter figure, being, in fact, as high as 1570; but the lower figure is certainly the most typical. It is in all probability to the Round Barrow race and the East Anglians that we owe the larger size of our

crania of to-day. As will be shown later, the capacities of these two races are remarkably high.

Cephalic index.—The South Saxon skull is above all things very long. In one case only does the index reach as high as 81. The rest vary between 74 and 69·3. The typical index would seem to be 72. There is no difference between the sexes in their cephalic indices, both being extremely dolichocephalic. The one brachycephalic skull is probably due to some admixture with the Round Barrow race. As one would expect, this high index is not frequent among the South Saxons. They were the new comers, living on the coast where they had landed, and they did not advance inland to any large extent: consequently they would have seen little of the Round Barrow race. The West Saxons, on the contrary, did penetrate into the interior, and must have come into most intimate contact with this race, and we naturally find, as I shall show later, two types of skull among them:—one more "Saxon," that is to say, dolichocephalic, while the other has a closer resemblance to the broad Round Barrow skull, and is brachycephalic, with an index of 81. This is of course a proof that the Britons were not exterminated by the Saxons: large numbers of them must have survived the Saxon conquest, and eventually the two races fused together.

Height index.—These skulls are not only very long, but also remarkably low: the average height index is only 70. The female skull agrees with the male in this respect. The height index is in every case equal to or less than the cephalic index length, but never greater.

Gnathic index.—The orthognathism of the South Saxons is also very marked: out of eight indices, there is not one above 98. They all vary between 97·9 and 89·5, with an average index of 94.

Orbital index.—The orbital indices are somewhat surprising. Before examining these skulls, I fully expected them to be mesoseme, like the modern English orbit: but, to my surprise, I found them to be distinctly microseme, two orbits only, out of fourteen, being mesoseme. The remainder were microseme and gave an average index of 81. The comparative lowness of this index is brought about by the extreme orbital width rather than by an absolutely small height.

Nasal index.—So far the various cranial indices of these South Saxons have agreed closely enough to enable one to see a distinct type running through the whole series. The nasal aperture, however, affords a good deal of variation. There seem to be two types, of which the first is leptorhine, with an index of 44, the second mesorhine, with an index of 49. The

only female index belongs to the mesorhine type. I may remark in passing that the one brachycephalic skull in this series is also the most leptorhine; whether this is a mere accident or not I have not sufficient data at my command to decide. It may be merely an example of what Collignon says is the rule, that brachycephalic skulls are usually leptorhine.

Naso-malar index (Oldfield Thomas).—This is of some interest in a study of the Saxon race, in view of Mr. Park Harrison's statement that the modern English derive their prosopic features from the Angles and not from the Saxons. If this were correct, we should expect to find the index high in the East Anglians and low in the South Saxons. If, however, the South Saxons had intermarried with the East Anglians to any extent, we should expect to find two types among the Saxons, one typical and platyopic or nearly so, the other prosopic. As a matter of fact there are two types among the Saxons, but the prosopic type cannot, it would seem, have come from the East Anglians, as these also are nearly platyopic, the mean index being 108. It appears that the two types must have existed among the Saxons before they settled in Britain, and that it is owing to the prevalence of the prosopic type that the modern English have that feature. It can hardly, I think, judging from the crania I have examined, have come from the East Anglians.

General description.—The Saxon skull has, as can be seen from the indices, and still more by a glance at the skulls themselves, several marked characteristics. In the first place it is, as I have already remarked, very dolichocephalic; in only one instance out of nine does the index rise above 74, while two fall below 70. Seen from above the cranium has a rather imperfect oval form; the widest part is caused by the projection of the parietal bosses, some way between the middle line, and it is owing to this that the skull has its well-known "coffin shape." In the frontal region the cranium is comparatively narrow: the supraciliary ridges are well-marked, and the cranium rises in a slightly receding fashion to the bregma, which, as Barnard Davis has pointed out, is nearly or quite as high as any part of the sagittal suture. In the occipital region, the upper part of the occipital bone has a large protuberance backwards; the angle at the occipital point is sharp and the lower part of the bone is comparatively horizontal.

The skulls besides being dolichocephalic are also markedly tapeinocephalic. Eight out of nine indices taken vary between 71 and 67.35, giving a mean of 70. The extreme length and lowness of these crania are perhaps their two most distinguishing features. Seen from behind the skulls present a beautifully oval

form; the prominence of the parietal bosses saves them from having the cymbocephalic shape of skull with its parallel sides, so characteristic of the Long Barrow race. The top of the cranium slopes away on each side of the sagittal suture, and is by no means flat like the top of the broad-headed Round Barrow crania; at the same time there is nothing of the nature of a keel along this suture, such as we find in "ill-tilled" skulls. The face is fairly long and narrow: the malar bones do not project to any large extent, and were it not for the lower jaw, the face would resemble the rest of the cranium in having a rather oval shape. As it is, however, the lower jaw is so massive, and the width between its two angles is so great, as to give the face a square and not an oval form. The jaws do not project in the least, the whole series being orthognathous. That the face is relatively long is obvious enough with the skulls before one, and the various facial indices, as a whole, show this point.

The nose is a striking feature and very prominent. The inter-orbital distance, in every case except one, is short, and the nose at its root is sunk in beneath the overhanging glabella. At first it is rather flat, but after a short distance it projects in a recurved manner and ends finally by standing out well in front of the face.

As regards the individual skulls, it may be as well to state that No. 665 has an *Os Inca* 20 mm. long and 35 mm. broad, and it has also the ossified remains of the pterygo-spinous ligament. No. 668 has an *Os antiepilepticum*.

The importance of the South Saxon skulls lies in the fact that they are doubtless of a purer type than are those of the West Saxons. The South Saxons landed on the coast of Sussex, conquered the British of that region, and then stayed there. Being on the coast, there was every opportunity for fresh Saxon adventurers to come and swell their numbers, and hence, though they must have intermarried to some extent with the conquered race, the type would probably have been kept fairly pure. With the West Saxons the case is different: the extent of sea-board, compared with the size of their kingdom, was far smaller than was that of the South Saxons, and intermarriage would in all probability have proceeded more rapidly among them. The features would therefore lose their purity, and it follows that for a pure typical Saxon skull we must look to Sussex and not Wessex. The typical Saxon indices will be found at the end of the paper in a tabulated form, compared with those of the other races to be described.

Femora.—With the crania were found also three male femora, two of which are remarkably platymeric. The lengths of these

femora are 429, 447 and 449 mm. respectively. From the table given in Topinard, I calculate that the heights of the three individuals would be 5 feet $3\frac{1}{2}$ inches, 5 feet $6\frac{1}{2}$ inches and 5 feet $6\frac{3}{4}$ inches, with a mean height of 5 feet $5\frac{1}{2}$ inches for the race. The first femur is not platymeric: its index is as high as 96.4. It is the two latter that exhibit this peculiarity, their indices being 71.2 and 72.7.

West Saxons.

From a study of the South Saxon crania, I concluded that the Sussex Saxons were not an absolutely pure race; they had intermarried to a small extent with the British inhabitants. This fusion of the two races is far more obvious among the Wessex Saxons, and can be clearly seen by an examination of their cranial features.

Cephalic index.—Taking the cephalic index first, there are, as I have already mentioned, two types of skull among them, a broad-headed type and a long-headed type. The latter is found more often than the former, and from its closer resemblance to the South Saxon skull, must be considered as the more typical: its cephalic index is about 75. The other type has a much higher index of 81. The brachycephalism comes, no doubt, from some native admixture. We see the effect of this fusion also in the height index. This, in the Round Barrow race, is, according to Thurnham, 76. I shall try and show later that there are two types of Round Barrow skulls, but the index of what I will for the present call the more typical, is about 78. It will be remembered that the height index of the typical Saxon is 70. We have thus the Round Barrow broad-heads with a height index of 78 and the Saxons with an index of 70. Among the West Saxons we find again two types of altitudinal index, the first being 71, the second 74. The latter indicates the fusion with the pre-Saxon race. The cephalic and height indices which I have found for the West Saxons agree almost exactly with the mean of some twenty West Saxon indices taken at random from the "Crania Britannica."

Cranial capacity.—As regards the cranial capacity, there is practically no difference between the South and West Saxons. If anything, the West Saxons have rather the smaller capacity of the two. I was only able to take the capacity of three male skulls. Of these one was abnormally microcephalic; but the other two have almost identical capacities (1450 and 1460 c.c.), and I think we may fairly put the mean capacity at about 1450, that is to say, just megacephalic. This inference seems supported by the capacities of the female skulls, of which I have four. The mean of these is 1360, or 100 less than the

male capacities: this is not more than what would be accounted for by the difference of sex.

Gnathic index.—The gnathic index is curious. Eight skulls out of twelve are orthognathous, the mean index being 94. Of the rest, one is mesognathous and the other three are on the border of meso- and prognathism. Two out of the latter three indices were derived from male skulls, the third from a female. It is difficult to see where the prognathous type can have come from. It cannot be due to admixture with the Round Barrow race, for these are orthognathous. If, on the other hand, these two distinct types were present among the West Saxons at the time when they invaded Britain, we should expect to find them also among the South Saxons, who were presumably members of the same race. This, however, is not the case. It would seem therefore that the prognathism was due to admixture with other races, subsequent to their conquest of Wessex; but even so, we are no nearer the solution of the question, inasmuch as there were no prognathous races in England at that time. It may be merely an individual peculiarity, but I think the percentage is too large for that. All that we can say is that there are these two types, an orthognathous and a prognathous type. Where the latter came from I have as yet no idea.

Nasal index.—It is difficult to distinguish any definite type of nose among the skulls examined. I have fifteen indices, of which the highest is 58 and the lowest 40; the intervening indices arrange themselves more or less regularly throughout this large gap:—40 p.c. are platyrrhine, 33 p.c. mesorrhine, and 27 p.c. leptorrhine. For the present I cannot say more than that there appear to be three distinct types of noses—types which merge into one another. Where the platyrrhine type comes from I do not know; not from the Round Barrow race, for these are leptorrhine. It is interesting to note that in the South Saxons it is the leptorrhine type that predominates, the platyrrhine being entirely absent. This is just the reverse of what is found among the West Saxons.

Orbital index.—The orbital index is more simple. Here again there seem to be two types, a microseme type with an index of 81 and a megaseme with an index of 90. But this we should expect. The microseme group which is the more numerous has the typical Saxon index, that is to say, the same index as the South Saxon skulls, 81. The megaseme group is smaller and gets its high index presumably from the broad-headed Round Barrow race.

With regard to the face, it may be noticed that these skulls are platyopic, with a mean index of 107. The marked prosopic type, which was found among some of the South Saxons, is here

absent, the highest index out of twelve being only 110. The face itself is fairly long and narrow; there is not much difference in this respect between the West and South Saxons. The West are perhaps a little shorter in face than the South. This slight change is in the direction of the typical Round Barrow race.

A study of these West Saxons seems to show conclusively that they are not pure Saxons, nor even as pure as the South Saxons, but Saxon with a British admixture. It would seem further that the British element predominates largely in the district round Melksham on the Avon. There are four skulls from Melksham among those that I have examined; they are all brachycephalic, and are obviously far more closely allied to the British type of skull than they are to the Saxon. In the rest of Wessex it is the Saxon type that predominates, though it must not be supposed that the British element is absent; it is present, and here and there stamps its mark to a greater or less extent on the Saxon crania; as, for instance, on the crania from the Cirencester district; at least this is so, if the two skulls from Fairford may be considered as typical. They are labelled "Celts-Saxon." Unfortunately we have only two of these crania in the Cambridge Museum, but as they agree with each other very closely in their indices and in their general appearance, I think I shall not be far wrong in considering them fairly typical of the district. They have a most marked Saxon appearance and are certainly more Saxon than British: at the same time they are, I think, rather more British than are the crania from Berkshire and some other parts of Wessex. A glance at the index at the end of the paper will show that their altitudinal index is higher, the face is shorter and their cranial capacity larger, in all of which points they tend towards the British type. In most of Wiltshire, with the exception of the West and especially the North-West parts, the crania belong, broadly speaking, to the Saxon type, but the three skulls from Harnham, near Salisbury, are brachycephalic, or nearly so. I think it quite possible, therefore, that there may be a "British colony" here as well as in the Avon Valley. The same thing may perhaps be said of Knowle in Dorset, as the only skull I have from that district is nearly brachycephalic.

These observations of mine afford a striking confirmation of the views which Dr. Beddoe has lately put forward in this *Journal* (July, 1895). Dr. Beddoe after a careful examination of the colour of the hair and eyes of the natives of Wessex, concludes that "the population of East Gloucestershire, like that of Central Oxfordshire, is largely Saxon; that of the country round Cirencester is scarcely less so, while that of the Upper Valley

of the Bristol Avon contains a much larger pre-Saxon element." I have not yet had an opportunity of examining any crania of the East Gloucestershire district, but I entirely agree with Dr. Beddoe in saying that the pre-Saxon element is to be chiefly found in the Upper Valley of the Bristol Avon, and that the population of the country round Cirencester is scarcely less Saxon than is that in the Eastern parts of Wessex. In the rest of Wessex Dr. Beddoe found the Saxon hair and eye colour to preponderate greatly. It would be interesting to see whether the colour test supports the idea of a British colony near Salisbury. I think it is more likely than not that it would do so.

On the whole then, I think we may consider that the disposition of the two races as given above is correct; if so, there can be no doubt "that the West Saxons settled numerously in the Upper Thames Valley before they began to interfere with the inhabitants of the Valley of the Bristol Avon."

Of peculiarities in the individual crania of this series, it will be enough to mention that the metopic suture persists in two cases out of seventeen (Nos. 550 and 566) while an Os Inca is to be seen in No. 550.

Round Barrow Race.

We now come to the Round Barrow race, who were supposed to have come over to England from the continent, armed with bronze weapons, by means of which they conquered the neolithic Long Barrow race. Intermarriage and fusion subsequently followed. If this view is right, we ought to find two types of skull in these Round Barrows, one more typical, resembling the race when they first invaded Britain, the other less typical, with features like those of the Long Barrow race. An intermediate set should exist as well, in some points resembling one type, in others the other type. That these two types do exist, I think there can be no doubt. To firmly establish this fact an examination of more skulls than I have been able to avail myself of will be necessary, but the two types are absolutely distinct, so far as I can judge at present.

The characteristics of each type may be briefly stated as follows:—

Type I. The skulls conforming to this type are megacephalic, orthognathous, leptorhine, dolichocephalic, tapeinocephalic, microseme on the whole, long-faced and prosopic. In fact they resemble the Long Barrow Crania, and this type may therefore be called the "Neolithic Type."

Type II. The skulls of this type are megacephalic, or-

thognathous, leptorhine, brachycephalic, acrocephalic, mesoseme (in some cases nearly megaseme), short-faced and platyopic. This may be called the "Bronze Type," as it almost certainly represents the type of features characteristic of the immigrants who made use of bronze weapons, before they lost their purity through intermarriage with the Long Barrow race.

A glance at the following indices will make this clear. It is a dangerous thing to guess at indices when they cannot be calculated, but No. 194 is markedly dolichocephalic and tapeinocephalic, while No. 181 is equally broad. No. 177 is moderately broad; Nos. 175 and 188 are moderately high; No. 191 fairly low and microseme.

The skulls are arranged in order of their cephalic indices, beginning from the lowest. (See p. 91.)

As can be easily seen, No. 193 resembles the neolithic type in the length of its face; it is truly intermediate in its cephalic and height indices, and it resembles the bronze type in its orbital and naso-malar indices. It therefore justifies its position in every way.

The orbital indices are more erratic than the rest. As a whole they fall in their proper places, but there are a few exceptions, as in skulls 188 and 192. These, however, are not, to my mind, sufficient to upset the positions I have assigned to the orbital indices, especially when it is considered that in both these cases, while one orbit is at variance with the rule, the other is in complete accordance with it. On the whole then, I think we may say that the neolithic type has a low orbital index, while the bronze type has a high index.

There is one more point that might be mentioned, as it indicates in another way the fusion of these Bronze and Neolithic races. In all the crania of the bronze type the parietal bosses are very prominent, and in most of the neolithic type this is the case also, giving these latter a coffin-shaped form of skull, like that characteristic of the Saxons; but in No. 192 the bosses are not very conspicuous, and the skull has the flat parallel sides so typical of the Long Barrow race. The prominence of the parietal bosses in the other members of the neolithic type is presumably due to the bronze type asserting its predominance in this respect. It may be in part caused by, or at least in relation to, the large size of the brain. With such a high cranial capacity it is natural to suppose that the parietal bosses would project to assist in finding room for the brain. The size of the internal capacity is very striking. The capacities are, I think, fairly accurate, but owing to the artificial holes in most of these

Number of skull.	Cranial capacity.	Grantham Index.	Sexal index.	Cephalic index.	Height index.	Orbital index.		Kollmann's upper facial index.	Kollmann's total facial index.	Virehow's upper facial index.	Virehow's total facial index.	Naas-malar index (Oldfield Thomas).
						Right.	Left.					
Neolithic Type—												
104 ..	—	96.5	47.5	low	low	80.2	80.3	—	—	86	140.2	109.3
184 ..	—	—	43	69.3	75.5	70.8	83.5	—	—	80.9	—	109.1
191 ..	—	—	—	69.6	mod. low	—	microsome	—	—	—	—	—
192 ..	1670	—	45.9	71.7	—	90.6	83	—	—	82.1	132.6	115
170 ..	—	93	—	72.8	72.5	—	73.5	40	85.9	71	124.5	—
Intermediates—												
103 ..	1610	—	42.6	74.9	74.4	90.1	94.9	56.5	93.4	74.4	127	106.3
178 ..	—	—	—	75.9	—	—	mesosome	—	—	—	—	—
Bronze Type—												
177 ..	—	—	—	mod. high	—	92.5	—	—	—	—	—	—
187 ..	—	—	—	70.8	—	—	—	—	—	—	—	—
188 ..	—	—	45.9	80.3	mod. high	77.5	85.7	—	—	68.8	112.2	105.4
175 ..	—	—	—	80.8	mod. high	—	—	—	—	—	—	—
179 ..	1650	—	—	84.9	77.2	—	—	—	—	—	—	—
172 ..	1565	95.7	47.8	88.6	78.3	89.2	87.8	—	—	66.1	—	108.5
181 ..	—	—	—	high	78.9	—	—	—	—	—	—	—

crania, they were difficult to take, and the results must only be regarded as approximate.

Among the bronze type the glabella and supraciliary ridges are not very prominent, and the top of the cranium is rather flat. The neolithic type, on the contrary, has a very conspicuous glabella and supraciliary ridges, and though there is no keel along the sagittal suture, the top of the cranium is anything but flat; it is more roof-shaped. A persistent metopic suture is to be seen in three skulls out of fourteen (Nos. 168, 178, 184). *Ossa Inca* exist in skulls 184 and 194.

Jutes.

Before passing on to the East Anglians, I may perhaps refer for a moment to the Jutes. Mr. Howorth believes that the East Saxons, who inhabited Essex and Middlesex, were members of the same race as the South Saxons. Together they inhabited the whole of the south-east corner of England under the common name of "Saxons." Later the Jutes landed on the coast of Kent, and inserted themselves as a wedge between the Saxons lying to the north of the Thames and those to the south. As they were no longer a conterminous people in the same sense as before, the names of South, Middle and East Saxons were applied to the three divisions of this race. If this view is correct, the East Saxons should have the same cranial indices and features as the South Saxons. I hope to see later on whether this is so or not, but as there are no Essex skulls in our museum here, I have decided to leave it for the present.

As regards the cranial features of the Jutes, the chief difficulty in the way of determining them is the want of skulls. There are four cephalic and two height indices of Kentish skulls given in the "*Crania Britannica*." The cephalic indices are 77, 74, 77 and 75, the mean of these being 75.75. The two height indices are 74 and 75, with a mean index of 74.5. We have one skull at Cambridge, which came from Ozingell in Kent. It was too broken for me to be able to calculate the cephalic and height indices, but it is nearly platyrrhine (52.7), just mesoseme, with an average index of 84 for its two eyes, orthognathous (94.2), and platyopic (106.5). The face is moderately long, the upper facial index of Virchow being 70.9. It is a female skull.

East Anglians.

Lastly, I have a few words to say about the East Anglians.

Our museum is particularly rich in skulls of this race. I have examined twenty-three of the most perfect specimens. A glance at the indices at the end of the paper will show their main

characteristics, but it may be as well to make a few remarks about them here.

Their *cranial capacity* is distinctly large. One skull falls, it is true, to 1220, but this is more or less balanced by one with a capacity of 1670, and, as four out of ten agree fairly closely in having an index of 1550, I think it would be best to consider this as typical.

Cephalic and height indices.—These skulls are dolichocephalic and tapeinocephalic; not so much so, however, as was the case with the South Saxons. The East Anglian indices are 74 and 71 respectively, numbers which agree exactly with those drawn from the "*Crania Britannica*."

Gnathic index.—Orthognathism is here the rule. The typical index seems to be 96, somewhat higher than among the South Saxons; these latter had an index of 94. Among the East Anglians, one skull rises to 105, one to 101, and three to 100, but the great majority are orthognathous.

Orbital index.—The orbits are mesoseme, with a mean index of 85. This is higher than that of the South Saxons, who had very microseme eyes (81).

Nasal index.—The East Anglians and South Saxons both agree in having the two types of noses, one leptorhine (mean index=44), the other mesorhine (mean index=50). There is no difference either according to sex in this index.

Naso-malar index.—With regard to the naso-malar index I fail, as I have already said, to confirm Mr. Park Harrison's theory that the predominance of prosopic faces among modern Englishmen is due to the East Anglians. I find out of nineteen indices only four that are prosopic, and there can be no doubt that the true index is 108; that is to say, the face is nearly platyopic. The face, as a whole, judged by the male indices, is narrower and longer than that of the Saxon, and curiously there is a distinct difference between the two sexes in the length of the face, the male facial length index being considerably higher than that of the female. I have not been able to discover any such difference in the other races I have examined.

In almost all the male East Anglians, the glabella and supra-ciliary ridges are well marked. Viewed from behind the crania have a symmetrical oval shape, and some of them have a similarly oval form when seen from above; others, however, are more like the Saxon crania in being rather coffin-shaped. This may perhaps indicate a slight fusion between the East Anglians and East Saxons. The face seen from in front has a square, determined look about it, and in some ways it also has a Saxon appearance.

The metopic suture persists in three cases out of twenty-

three (Nos. 382, 401, 517), while Ossa Inca are present in two (375, 517).

Summary.

The main points of this paper may be briefly recorded as follows:—

1. The South Saxons were not an absolutely pure race; they had a little British blood in them, though the amount was probably very small. The Wessex Saxons were less pure than the South Saxons, owing to their more frequent intermarriage with the British population.
2. I am able to confirm Dr. Beddoe's researches to the effect that the pre-Saxon population predominates in the Upper Valley of the Bristol Avon, and that the population of the Cirencester district is chiefly Saxon, though containing a slightly larger admixture of British blood than is the case in East and South Wessex.
3. There are two types of skulls in the Round Barrows; one like the Long Barrow skull, while the other type is more "British." This fact confirms the belief that the broad-headed immigrants of the Bronze age conquered the Neolithic race and then fused with them.
4. The East Anglians have a form of skull slightly different to that of the South Saxons. It is rather broader, less tapeinocephalic, and mesoseme instead of microseme: the face is also relatively longer, and the cranial capacity larger.
5. These skulls do not bear out the theory of Mr. Park Harrison, that the prosopism of the modern English is derived from the East Anglians. It would seem rather to have come from the South Saxons.

In conclusion I should like to express my thanks to Professor Macalister for his kind help and advice to me during the course of this paper.

TABLE I.—Comparing the typical indices of the various races examined.

Number of skulls examined.	Round Harrow Race.		Celtic Saxons.		Western Saxons.		South Saxons.		East Anglians.		Jutes.	
	14		2		20		10		23		1	
	Neolithic type.	Bronze type.	British type.		Saxon type.							
Cephalic index	72	81	75	81	75	72	74	75.75 ¹				
Height index	74	78	76	74	71	70	71	74.5 ¹				
Cranial capacity	1620	1620	1510	{ (1) 102 (2) 94 }	1460	1480	1550	—				
Gnathic index	96	96	94	{ (1) 90 (2) 81 }		94	96	94.2				
Orbital index	80	90	80	{ (1) 55 (2) 50 (3) 44 }		81	85	84				
Nasal index	46	46	50			{ (1) 49 (2) 45 }	{ (1) 50 (2) 44 }	62.7				
Total facial index (Kollmann)	91	—	81.3	85		88.5	—	—				
Upper facial index (Kollmann)	52	—	47.1	54		54	56 ²	—				
Total facial index (Virchow)	133	112	121.7	110		119	126 ²	—				
Upper facial index (Virchow)	81	68.5	70.5	70		72	78 ²	70.9				
Naso-malar index (Oldfield Thomas)	111	106	108.2	107		{ (1) 113 (2) 107 }	108	106.5				
Stature as judged from the femora	—	—	—	—		5 ft. 5½ in.	—	—				

¹ From the "Crania Britannica."

² Male indices.

TABLE II.—Round Barrow Race—continued.

Number of skulls.	Sex.	Where found.	Cephalic index.	Height index.	Cranial capacity.	Glabrous index.	Orbital index.		Kanal index.	Total facial index. (Kofmann).	Upper facial index. (Kofmann).	Total facial index. (Viechow).	Upper facial index. (Viechow).	Naso-malar index. (Olsfeld Thomas).
							Right orbit.	Left orbit.						
188	♂	{ Round Barrow, Winter- bourn, Stoke .. }	80·3	—	—	—	77·5	85·7	45·9	—	—	112·2	68·8	106·4
191	♂	{ Round Barrow, Kennet Hill .. }	69·6	—	—	—	—	—	—	—	—	—	—	—
192	♂	Kennet Hill, Avebury ..	71·7	—	1670	—	90·6	83	46·9	—	—	132·6	82·1	115
193	♂	{ Round Barrow, Morgan's Hill, near Wansdyke }	74·9	74·4	1610	—	90·1	91·9	42·6	96·4	56·5	127	74·4	106·3
194	♂	{ Round Barrow, Knapp Hill .. }	—	—	—	96·5	80·2	80·3	47·5	—	—	140·2	80	109·3
175	♀	{ Long Barrow, secondary internment, Stonehenge }	80·8	—	—	—	—	—	—	—	—	—	—	—
178	♀	{ Small Round Barrow, Shepherds Shore, near Wansdyke .. }	75·9	—	—	—	—	—	—	—	—	—	—	—
Mean Indices			{ (a) 81 (b) 72 }	{ (a) 78 (b) 74 }	{ 1620 }	95	{ (a) 90 (b) 80 }	46 {	46 {	{ (a) — (b) 91 }	{ (a) — (b) 53 }	{ (a) 112 (b) 131 }	{ (a) 68·5 (b) 81 }	{ (a) 106 (b) 111 }

TABLE III.—West Saxon Crania—continued.

Number of skull.	Sex.	Where found.	Cephalic index.	Height index.	Cranial capacity.	Glabial index.	Nasal index.	Orbital index.		Total facial index (Kollmann).	Upper facial index (Kollmann).	Total facial index (Virchow).	Type facial index (Virchow).	Kraus index (Thomson).
								Right.	Left.					
560	♀	Harnham, Wilts ..	79	71	—	102·6	55·3	80·2	88·6	—	—	116·6	71·3	105·6
571	♀	Knowle, Dorset ..	79·6	71·7	—	90·8	46·8	84·2	81	—	—	118	67	107·3
568	♀	Hazelbury, Somerset ..	76·1	—	—	—	60	77·5	81	85·7	54·1	118·8	75	108·4
557	♀	Swindon, Wilts ..	75·9	68·9	1300	100·5	43·3	85·3	85·1	85·8	50·6	119·1	70·2	107·8
549	♀	Long Wittenham, Berks ..	75·8	70·4	1410	95·5	58	76·7	82·5	80·2	48·6	110·7	67·2	107·2
554	♀	{ Cross Roads, Tilehead, } Wilts	73·1	71·2	1380	—	40·4	94·1	—	—	—	—	80·3	—
556	♀	Durrington Down, Wilts ..	72·5	72·2	—	96	53·3	80·8	78·7	—	—	133·3	77	107·3
573	♀	Old Somerton, Somerset ..	—	—	—	—	55·7	90·4	81·5	—	—	—	—	106·4
		Mean Indices ..	{ (1) 80 (2) 75 }	{ (1) 74 (2) 71 }	{ 1400 (1) 94 (2) 103 }	{ (1) 55 (2) 50 (3) 44 }			{ (1) 90 (2) 81 }	86	54	119	70	107

CELTO-SAXON CRANIA.

569	♂	Fairford, Gloucestershire..	75·3	76·0	1510	94·3	49·4	71·8	72·3	81·3	47·1	121·7	70·5	108·2
570	♂	Fairford, Gloucestershire..	74·1	75·9	1510	93·7	50·5	—	80·1	—	—	—	—	—
		Mean Indices ..	75	76	1510	94	50	77	77	81·3	47·1	121·7	70·5	108·2

TABLE IV.—South Saxon Crania.

Number of skull.	Sex.	Where found.	Cephalic index.	Height index.	Cranial capacity.	Gonathic index.	Orbital index.		Mental index.	Total facial index (Kollmann).	Upper facial index (Kollmann).	Total facial index (Virehow).	Upper facial index (Virehow).	Mento-malar index (Owfield Thomas).
							Right.	Left.						
660	♀	Goring, Sussex	80.7	71	1470	90.5	79	81.4	42.6	83.1	50.7	120.4	73.5	105.8
661	♀	Goring, Sussex	71.9	68	1485	95.9	83.3	79	45.4	96.2	59	137.6	84.4	112.8
662	♀	Goring, Sussex	—	70	—	92.8	80.5	83.3	49	—	51.7	—	75.3	108.1
663	♀	Goring, Sussex	—	67.8	—	80.8	83.95	82.5	40.5	—	—	—	67.7	112.6
664	♂	Goring, Sussex	70.6	69.9	1570	97.9	85.5	77	43.3	86.3	55	114.7	73.1	107.4
665	♂	Goring, Sussex	72.75	70.5	—	93.8	81.6	77.5	46.3	—	—	115.1	67	107.1
666	♂	Goring, Sussex	74	74	1465	94.1	72.3	—	44.8	—	—	120.5	71.6	—
671	♂	Goring, Sussex	70.9	67.35	1485	—	—	—	—	—	—	—	—	—
667	♀	Goring, Sussex	72.4	70.4	—	—	—	—	—	—	—	—	—	—
672	♀	Goring, Sussex	69.4	—	—	89.5	88.5	—	48.9	—	—	119.3	71.6	113.6
670	child	Goring, Sussex	69.3	—	—	—	88.2	—	53.9	—	—	—	—	—
Typical Indices (excluding 670)			72	70	1480	94	81	{ (1) 49 (2) 45		88.5	54	119	72	{ (1) 113 (2) 107

TABLE V.—East Anglian Crania.

Number of skull.	Sex.	Where found.	Cephalic index.	Height index.	Cranial capacity.	Glabial index.	Orbital index.		Kneal index.	Total facial index (Kollmann).	Upper facial index (Kollmann).	Total facial index (Vinebow).	Upper facial index (Vinebow).	Mento-malar index (Oldfield Thomas).
							Right.	Left.						
326	♂	Hauxton	72.7	68	1220	100	84.2	84.2	43.6	—	—	132.2	81.6	108
329	♂	Hauxton	77.1	71.8	—	100	81.6	77	53	—	—	127.8	75.5	107.4
331	♂	Hauxton	72.4	72.4	1310	93.2	—	77.4	49.5	—	—	—	—	—
366	♂	Hauxton	71	69.7	1540	86.9	82.9	89.7	42.2	—	56.9	—	78.8	110.2
367	♂	Hauxton	75.1	64.3	—	105.4	—	88.2	45.4	—	—	—	—	—
376	♂	Hauxton	73.9	69.8	1550	89.1	84.6	83.9	47.6	—	56.2	—	78.1	110.3
382	♂	Hauxton	76.6	66.8	1500	96.1	87.8	83.1	38.8	—	—	133.7	82.1	108.9
401	♂	Hauxton	72.6	69.6	—	93.6	97.3	95	48.4	—	—	—	74.7	108.2
402	♂	Hauxton	72.8	73	1670	91.4	83.9	83.8	50	—	—	128.9	74.2	108.2
423	♂	Haslingfield	76.2	71.4	1420	95.5	84.6	87.2	49	—	—	124	81	106.3
427	♂	Cambridge	75.3	68.3	1465	—	85	89.6	46	—	—	142.6	84	109.3
511	♂	Cambridge	—	70.8	—	100.5	85.4	86.6	40.9	—	—	—	89.2	108.6

TABLE V.—East Anglian Crania—continued.

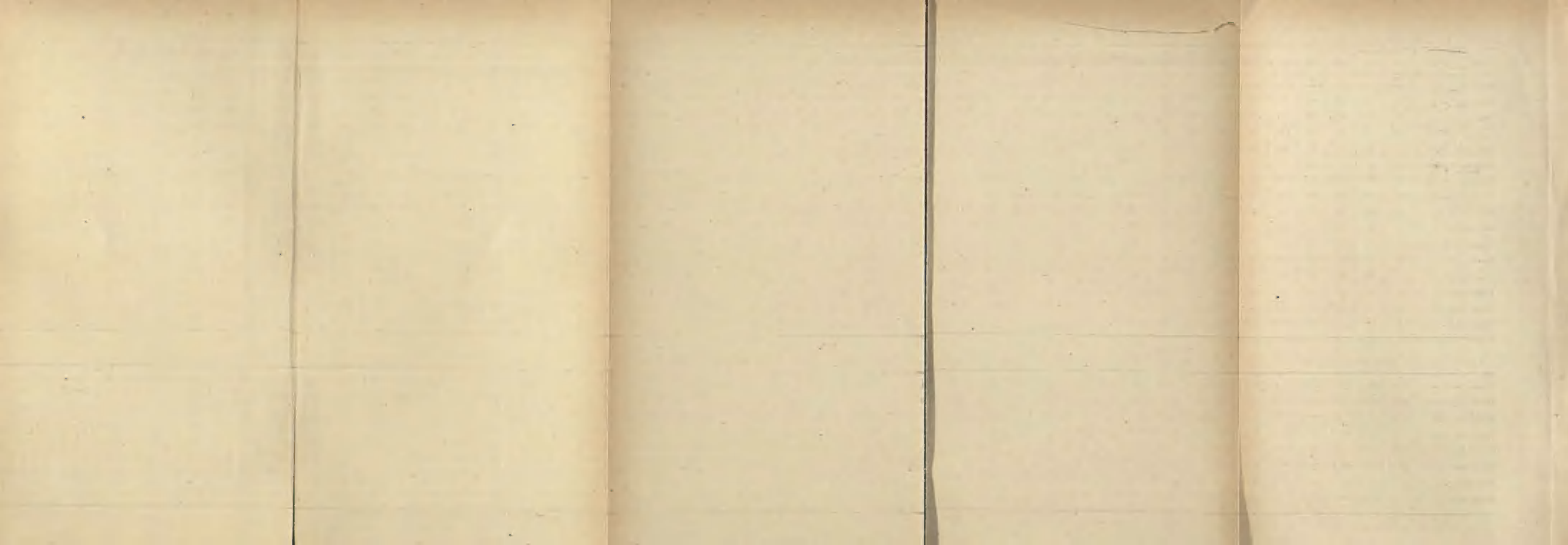
Number of skulls.	Sex.	Where found.	Cephalic index.	Height index.	Cranial capacity.	Gonathic index.	Orbital index.		Nasal index.	Total facial index (Kollmann).	Upper facial index (Kollmann).	Total facial index (Vinebro).	Upper facial index (Vinebro).	Kao-malar index (Oldfield Thomson).
							Right.	Left.						
513	♂	Cambridge	..	..	73.8	—	74.4	76.5	43.7	—	—	—	77.7	107.9
514	♂	Cambridge	..	..	75.4	73.2	—	83.6	51.9	—	—	—	75.8	—
579	♂	Hauxton	..	..	74	69.1	92.2	89.9	51.5	—	53.6	—	71.6	108.7
340	♀	Hauxton	..	..	75.7	67.6	77.8	82.1	44.4	—	50.4	—	67.2	108.3
361	♀	Hauxton	..	..	73.8	69.4	87.7	89.9	44.6	—	—	—	77.6	112.9
372	♀	Hauxton	..	..	73.9	65.2	88.2	88.2	52.2	—	—	—	78.2	110.9
375	♀	Hauxton	..	..	73.7	73.7	82.4	88.6	52.9	—	—	—	61.5	106.9
383	♀	Hauxton	..	..	78.1	71.1	93.8	89.7	—	—	—	118	70	106.7
428	♀	Cambridge	..	..	73.4	72.5	—	92.3	49	—	—	120.1	71.6	—
517	♀	Barrington	..	..	74.7	65.4	80.3	81.6	62.8	—	—	—	63.8	106.4
518	♀	Hauxton	..	..	—	—	80	84.4	48.6	—	—	—	76.4	107.7
Mean Indices..			74	71	1550	96	85	{ (a) 50 (b) 44	— {	55 ♂ 50 ♀	129 ♂ 119 ♀	78 ♂ 70 ♀	} 108	

MEASUREMENTS OF THE SKULLS

[illegible]

INDICES

[illegible]



An unpublished BATAK CREATION LEGEND.

By C. M. PLEYTE.

The first village.¹

"I FOLD my hands respectfully above my head, O gods on high!"

"Seven times pardon, lord, for naming thy name, *Batara guru doli*,² who reignest among the gods of the upper regions!"

"Lord of the seven strongholds, whose walls are so high, that the elephants stoop before them, the surrounding bamboo compels the storm to respect."

"Possessor of the bathing place *Si-mangera-cra*,³ situated in an inaccessible region."

"The ficus *Yambu barus*⁴ extends its vault over thee, when thou enjoyest thyself with thine in the fields, or pronounceest judgment in the shade of its foliage, wherein the birds of the sky hover to and fro, flapping their wings and warbling sweetly.⁵

Si-tapi Sindar di mata ni ari,⁶ daughter of *Batara guru*, sat at the gate of heaven, dressing her hair, wherein she made an extraordinarily beautiful parting. She felt a desire to look downward, but her heart was struck with sadness when she could discover nothing but a bare plain. When she came home, her father remarked the alteration of her features and asked with compassionate interest: "What is the matter, my dear daughter? you seem put out."

"Nothing is the matter with me, father, why should I be discontented? I have the happiness to be your daughter, and is it not already blithe to see the birds *Patija raja* and *Buruk-buruk bolajan*!"

* * *

Batara guru slept and had a bad dream. "I woke disturbed, for in my sleep I saw an unwonted agitation in the air, and the ground shook as if it were moved by an earthquake," he said to his daughter, and turning to one of his *Mandi*-swallows,⁷ he ordered it to go down.

"How shall I get there, lord?"

"Here is a jacket⁸ of my father's, put it on in order not to get too tired with flying in such a vast space," said *Si-tapi Sindar di mata ni ari*.

The swallow sailed downward, tracing wide circles in the air, but it saw nothing whatever on which it could rest. At last it espied the rock *Tanjuk tolu*,¹⁰ and let itself, quite exhausted, down upon it. Then it rolled up the jacket and used it as a cushion on which to take the rest it so much wanted.

Si-tapi Sindar di mata ni ari became impatient on account of the long absence of the swallow, and sent the bird *Patija raja* to look after it. *Patija raja* was also provided with a jacket and hovered on it downward. After it had looked for a long time in all directions, it discovered at last the swallow sleeping peacefully.

"Why do not you come?"

"The strong wind makes it impossible for me to fly upward."

"Say rather that you are not willing; why such a false pretence? Look how I shall manage."

Patija raja flew up in mid-air, but was overmastered by the strong wind, which drove him towards the east, and he was obliged to come back without delay.

"What did I tell you, it is impossible!"

"Now then we shall have to stay here for the present."

"What can be the reason that they stay so long?" said the princess, growing more and more impatient. She called the cowflea¹¹ and said: "Please go down and see why they do not come back."

"I must, you say, go thither; but is there nothing that I have to take with me?"

"Here is a firesteel; take it in your armpit, and be careful that nobody here shall know that I have given it to you."

(The cowflea went, and one would say that the little balls protruding from his head had been his eyes, if it were not known that his organs of sight were in his armpits.)¹² The flea despaired at first of finding the two birds, but had nevertheless at last the good luck of meeting them still on the *Tanjuk tolu*.

"Why do not you come? the princess is so angry!"

"The strong wind has made our return impossible, and that is why we are still sitting here."

The three began to consider together what they ought to do. They resolved to go to the rock *Nanggar jati*,¹³ and to try to make their return from its top. When they had reached the rock, *Patija raja* began to climb it. He arrived half way up and looked on all sides, but he discovered nothing that could be of use to them in their embarrassment. Only a bare plain was spread before his eyes. Therefore he climbed higher, and first, when he reached the top, he saw the roots of the *Yambu barus* dangling gently above him. He hoped now to be soon back, provided he succeeded in grasping one of the roots, but notwithstanding all his efforts, they still remained out of his reach. He began to lament loudly, for his last hope was gone.

His cries rose upward and were heard by the princess, who

thought that she recognised the voice of her favourite bird. She sent one of her servants to see what had happened, and was soon after aware of the truth. She asked then for her betel-pouch, and opened it so that the scent spread far off, and *Patija raja*, who smelt it, was full of sad thoughts on account of his beloved mistress.

Si-tapi Sindar di mata ni ari went to the gate of heaven and took with her a magic ring,¹⁴ her betel-pouch, and seven hen's eggs. When arrived, she sat down and looked downward, upon which, espying *Patija raja*, she said to him: "Do not cry any more but hasten to come up."

"Alas, princess, I cannot reach the roots of the *Yambu barus*, all my endeavours have been in vain."

"Since it cannot be otherwise, you must make up your mind to go down again; I shall take care that you want nothing."

She let down the magic ring and gave *Patija raja* these directions: "When you three have settled on the *Tanjuk tolu*, then you must open the eggs, and you will find in them all the plants and trees which you may require; but if you want to have cattle, you must call on the magic ring, and you will get not only cattle but also all kinds of animals, habitations, council-houses, and whatever more you may wish for."

When the adventurers found themselves together again on *Tanjuk tolu*, they opened the eggs, scattered round about them the contents, and by this means soon saw splendid fields and gardens appear. In a short time they were, by the power of the magic ring, put in possession of houses and all they wanted.

They feasted then, eating and drinking good things, and settled also that *Patija raja* should be king, the swallow vice-king, and the cowflea commander of the warriors of the newly established village. Then they prayed to *Batara guru* that they might have offspring in order to people the village.

When he had heard their prayer, *Batara guru* ordered his sister *Pandan rumari*,¹⁵ to go to the earth.

"But, brother, how shall I get there?"

"Do not be anxious about your journey, aunt; I shall make it as easy as possible for you," said *Si-tapi Sindar di mata ni ari*.

"You must choose a good spot to settle there, aunt; and when you have made your establishment, you must promise me that on the next festival Saturday,¹⁶ you will come on to the top of the rock."

Si-tapi Sindar di mata ni ari now twisted her hair into a basket, wherein her aunt *Pandan rumari*, after having put a

magic ring on her finger, placed herself to be let down on the *Nanggar jati*. When she arrived on the top, she looked fearfully round about, but finally went down the rock. She settled at the foot of it, and called her abode *Pulo porlak pagaran*. When the festival Saturday arrived, *Pandan rumari* went to the top of the *Nanggar jati*, where the roots of the *Yambu baru* still dangled. She tried to take hold of one, but failed, and, not knowing what to do, she began to weep loudly.

At the moment *Si-tapi Sindar mata ni ari* heard the sobbing, she said to herself: "Is not this my aunt?" And going to the gate of heaven to look down, she found at once that she was right. At the same time she remembered what had been concerted. She ordered a servant to bring her a woman's jacket, a jew's harp, a pair of ear ornaments, a mirror, and lemons, twelve different kinds grown on the same branch. She let all these things down to her aunt and then took leave of her with the following words: "Go back down the rock, dear aunt, and take with you the bird *Imbulu Man*, who can be of service to you, if you want to enter into relation with *Patija raja* and his comrades."

Pandan rumari then got the bird *Imbulu Man*¹⁷ to accompany her, who was no ordinary bird, since she had no feathers, and she was like a human being as regarded her skin. She was also, through the will of *Batara guru*, pregnant of a human fruit.

When she had returned to her dwelling, *Pandan rumari*, on account of the situation in which the bird found herself, gave her an appropriate couch, surrounded by mats arranged like curtains.

One day, *Pandan rumari* lighted a great fire, the smoke of which rose on high and was perceived by the inhabitants of *Tanjuk tolu*.

"Go and see who makes a fire there," said *Patija raja* to the swallow.

"But when I arrive there and find somebody, I shall have to say something."

"If you do not know the person, ask him who has made him come there."

The swallow came to *Pandan rumari* and asked her who had sent her to that place. "*Batara guru* sent me here. But you come as if called for, because *Imbulu Man* must be with you at *Tanjuk tolu*," answered *Pandan rumari*.

When the swallow arrived at *Tanjuk tolu* with *Imbulu Man*, this last addressed *Patija raja* as follows: "The reason why I have been sent here by the princess, is that I should provide

you offspring so that you do not remain without subjects." After some time, *Imbulu Man* was delivered of two daughters, of whom *Patija raja* and the swallow each took one for his wife. If *Imbulu Man* were to give birth to one more daughter later, then the cowflea was to have her for a wife. The cowflea was by no means satisfied, and thinking that he might have to wait a very long time for his wife, he secretly got *Imbulu Man* with child, in order to secure his wish. It appeared soon that she was again pregnant, and she declared that this was the cowflea's doing; but he was let off after a slight reprimand from *Patija raja*.

Imbulu Man was afterwards delivered of a son, who had the name of *Bala porang*. After that *Patija raja* had by his wife a son, to whom they gave the name of *Raja Manuksang di portibi*. As for the swallow, he had two daughters, the one of whom they called *Sada lumban*, and the other *Boru domu*; at the feast of the naming of his daughters, the swallow gave himself the title of *Namora Mangipa*.

As they made their children intermarry, the inhabitants of *Tanjuk tolu* could soon rejoice in the possession of numerous descendants, whose swarms filled the newly founded village.

NOTES.

¹ The title of the Batak original is *Huta porjolo*. The text of it forms part of the manuscripts bequeathed by Dr. H. N. v. d. Tuuk to the library of the National University of Leyden. The original reproduced here, I found in a letter of v. d. Tuuk, sent to the Dutch Bible Society, which has kindly allowed me to publish it.

² *Batara guru doli*, i.e., *Batara guru* the man, is the upper god of the Bataka, since his father, *Mula djadi na bolon*, i.e., the great origin of being, like the Kronos of the old Grecian mythology, was put into the background (*vide* Pleyte, "Bataksche Vertellingen," p. 278, note 8.)

³ *Si-mangera-era* is probably an ornamental expression for *Si mangira-ira*, the one who rustles.

⁴ The holy figs tree whose roots touch the top of the *Nanggar djuti*, the rock which the gods used to come down to on earth, the way used by privileged mortals, who were allowed to visit the heavenly regions (*vide* "Bat. Vert." p. 127 etc.). Some authors have compared this rock with the mount Meru of the Hindus. But it is not at all necessary to do so in order to explain the appearance of this mountain in Batak mythology, since it is a well known fact that in the legends of the Alfurus of Minahasa and Central-Celebes, on the Kei Islands, etc., and in the sacred tales of the South Sea Islanders, people who never came in contact with the Hindus, a mountain fulfils the same function as the *Nanggar jati* of the Bataka.

⁵ These first lines form a *tonggo-tonggo*, an invocation, the very usual beginning of Batak tales.

⁶ A princess of the heavens, mentioned in a great number of tales. In Mandalling, she is called *Si-tapi Singgar di mata ni ari*. Both names

signify *Si-tapi*, illuminated by the sun (*vide* "Bataksche Vertellingen," p. 232).

* All that seems to be known of these birds is that they belong to the retinue of *Batara guru*.

* Messengers of the gods of the upper regions to the mortals of our planet.

* Such a jacket, which is provided with wings, is called *mahijang*, and is used: *tattan lao mijur habot kabong lao tu ginjang*, i.e., to hover downward, to fly upward. These flying jackets are the exclusive property of *Batara guru*. These jackets, though the possibility is not excluded that they are of Indian invention, did not come into the tales of the Malayo-Polynesians during the period of their invasion of Indonesia for the same reasons as the *Nanggar jati*. We find them, for instance, in the stories of all the Indonesian tribes, therefore also among those who did not come in contact with the Hindus as well as on the New-Hebrides, which fact shows clearly that if they are of Asiatic importation, this importation must have taken place in a period much older than the invasion of the Hindus, and this probably in the days when the peoples who form the Malayo-Polynesian family nowadays, had not yet begun their exodus to the islands of the Indian Archipelago and the South Seas, but were still living in the upper regions of India Minor, Malaka, Burmah, Cambodja, etc.

"*Tanjuk tolu*. No particulars about the place where this rock was situated are given.

"Cowdrea is a kind of large tick, not yet baptised by science.

"This is the first time that we meet in Batak folklore with the mention of fire as brought down from heaven to earth. The Bataks seem, therefore, to have had their Prometheus, though his name could not escape oblivion. In connection herewith it must be noted, that in the creation legends of the Alfurus of Central-Celebes, especially among the tribes surrounding the lake of *Poso*, a legend runs which shows a particular affinity to the Batak story. *Lamoa*, the creator of men, provided them also with fire, but on a certain day all the fire went out, not a single spark remained glowing. In these sad circumstances a man named *Tambuja* resolved to go to heaven to fetch the so eagerly desired fire. At his arrival the inhabitants of the heavens promised to give him fire if he would allow them to cover his eyes, in order that he might not see how they managed in making fire. He consented, but lifting up his arms to put his hand before his eyes, he uncovered his armpits, in which he had also eyes, so that he saw how a knife was struck against a flint so that the sparks flew about and set a piece of wood on fire. The burning stick was given to *Tambuja*, who took it with him on his return, with the secret of fire making. The point of the Batak and Alfuru Prometheus having eyes under their arms is so striking, that we may accept it that both stories sprang from the same source. To prove it is as yet impossible, since identical legends from the Indonesians are not published, so far as I can ascertain (*vide* Kruyt, "Alb. C. De legenden der Poso-Alfoeren aangaande de eerste menschen. Meded. v. w. het Nederl. Zendelinggenootschap," 1894, p. 341).

"*Nanggar jati* (see note 4), was formerly an immense rock reaching to the sky. All that is left of it now, according to tradition, is a low hill in the Si pirok country since *Matin Deman* and his friends crushed it to pieces after their return from the divine lands (*vide* "Bat. Vert." pp. 142, 225). It must be remarked that the destroying by violence of the mountain that formed the way to heaven is also familiar in Indonesian folklore; compare the story of *Warerek*, who splits the *Lokon* in Graafland, "Minahassa I," 143; also in Hickson, "A Naturalist in North Celebes," p. 248 ff.

¹¹ In the dialects of the West Coast this ring is called *tittit si-padjadi-djadi*, the all creating ring, in those of the East Coast, *sinsing pinta pinta*, wishing ring.

¹² This passage throws light on one of the obscure points of Batak mythology. *Ina ni si pandan rumari* or *rumari* figures in several tales as an old widow friendly to men, living in a kind of paradise named *Pulo portak pagaran*, i.e., fenced island garden. Till now her origin was unknown, though it had already been remarked that she bears diverse names, for instance that of *Ina si rondo kajo* or *Rumbio kajo* in Mandailing. The late Dr. v. d. Tuuk had moreover shown that *Pandan rumari* is the same as *Ninik Kabajan* in the *Hikajat si-miskin*, and as *Rubijah randa kaja* in the legends of the *Ménangkabau*-Malays; but he had given no indication of the origin ascribed to her in the Batak belief. At present we know that she is a sister of *Batara guru*, therefore a deity. The identity of *Pandan rumari* = *Rondo kajo* with *Rubijah randa kaja* has also this consequence that *Pandan rumari* is identical with the Mandailing divinity *Tuanan rumbio kajo*. This higher power, therefore, living in the fifth heaven, and controlling agriculture, according to the Mandailings, is feminine, and not, as was generally considered, masculine.

¹³ The festive Saturday, *Samisara na godang*, more generally named *Samisara purnama*, is the day preceding the night of the full moon. As the Bataks reckon their months by moons, this day is for them always the fourteenth of the month.

¹⁴ *Imbulu Man* was a featherless bird, which received its feathers from other birds, and thence was called *Naga portuppuwan*, i.e., *Naga*, dressed in that which is brought together. He is the hero of many tales, and was born from a drop of clotted blood on which a hawk had been brooding as on an egg.

JUNE 9TH, 1896.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The election of Miss G. M. GODDEN was announced.

The death of Dr. ROBERT BROWN was announced.

Mr. H. W. SETON-KARR exhibited some flint implements from the Egyptian desert, and remarked that during previous journeys for lion shooting in Somali-land he had brought home implements for examination. On the last or fifth journey his object was entirely to search for implements of larger size, of distinct palæolithic character. Previously he had seen and studied the general shape and size in Sir John Evans's collection. He was very fortunate to find a large number. Before the collection was dispersed he photographed it; and these, as photos, with a number of Somali-land life and scenery, were exhibited. Sir

John Evans and other authorities were now of opinion that they were of palæolithic age, and Sir John Evans had so stated on April 30th last before the Royal Society.

With regard to the Egyptian implements he found in the spring on the desert, he would suggest they might be the Æthiopic stones of Herodotus, used for embalming purposes. Sir John Evans and others, however, were of opinion they were much older; stone arrowheads, we are told, were used as late as the 18th dynasty. He thought Africa might prove to be the cradle of a portion, at any rate, of the human race.

Mr. READ expressed his gratification at the fine series of Egyptian implements shown, but he ventured to demur to the assumption that these had been accepted as of palæolithic age. He did not remember that either Sir John Lubbock or General Pitt-Rivers had claimed so high an antiquity for the similar implements discovered by them. Mr. Read's impression was that Professor Petrie had, at a comparatively recent date, demonstrated the existence of palæolithic implements in Egypt, and that his attribution of so remote an age to the implement found by him at Esneh was founded principally, if not entirely, upon its position, viz., 200 feet above the present Nile.¹

With regard to the Somali-land implements, Mr. Read said he had a few words to add to his remarks on the previous occasion. On a recent visit to Brussels he had discussed the matter with M. Dupont, the well known Director of the Natural History Museum there. M. Dupont had seen photographs of Mr. Seton-Karr's implements, and declared positively that such remains were by no means uncommonly found on the surface in the Congo district, that he himself had brought some back, and that from his observations as a geologist he had come to the conclusion that they were remains of the recent stone age of Africa, i.e., neolithic.

Mr. Read thought it worthy of some consideration whether in Africa might not be found one of the spots in the globe where there was no gap between palæolithic and neolithic man. There seemed every probability that if such a favoured spot was to be found, as had been ably argued by Sir Henry Howorth in his "Mammoth and the Flood," it would be within the tropics.

Major-General ROBLEY exhibited a collection of baked heads of Maoris, all bearing tattooing except one of an infant, and made the following remarks:—

¹ Petrie, "Ten Years' Diggings in Egypt," 1892, p. 77.

Most of the early writers on New Zealand mention the practice of preserving heads. It was general before Captain Cook's time, and the first ever obtained by Europeans was procured by Mr. Banks, January 7th, 1770. In old days the distinction was first reserved for persons of importance. The principal object seems to have been to keep alive the memory of the dead, and the *moko mokai*, as they were called, supplied the places of statues and monumental records. In the case of a departed chief it was a visible sign that in some mysterious way his presence was among the people. It was no uncommon thing for the head of a beloved relative to be embalmed.

Such were always kept in greatest esteem, they were a memorial of the grief of the survivors, and kept to show relatives and friends who were absent at the decease. The origin of the embalming is involved in obscurity, in common with everything relating to the early customs of the Maori.

Weight must be given to the consideration that warriors would wish to show, as trophies, heads of the enemy, but while those of friends were carefully guarded, these latter were exposed on tops of posts so that the prowess of the tribe might be seen.

These enemies' heads played a part in the negotiations for peace, as an exchange was an indispensable article in the treaty.

The Maoris did not entirely reserve their treatment of heads for their own race, and many heads of white men have been dried; there are some existing in collections. The last instance was in 1864, when Captain Lloyd, of the 57th Regiment, and his detachment fell into ambuscade at Te Ahuhu, on April 6th. The Maoris cut off the heads of the fallen and they were used in the orgies of the Hauhaus.

Captain Lloyd's was afterwards given up, but in 1865 one soldier's head was used by them as a mystic symbol.

The old embalming consisted in the removal of all the interior of the head and drying in smoke fire after a careful steaming or even basting. This process was so good that many heads are in splendid condition even now though over 60 and 100 years old. The form of features was fairly kept, and the identity of the deceased easily recognized, for the tattooing kept its place exactly on the face.

The first head taken to Sydney was in 1811. Until Europeans visited New Zealand these heads had only a sentimental value; but after 1820 the natives were first armed with muskets, and a depopulation of the islands began. To save itself from extinction, a tribe had to give it's all for arms and ammunition, and then it was that specimen heads came into exchange, and a regular traffic arose, which attained such dimensions that slaves were tattooed and their heads sold.

Old grudges were raked up, and small wars undertaken, to keep up the supply.

In 1831, some European dealers in heads were so treated themselves in New Zealand, but the escapade of a sea captain brought the scandal into prominent notice, and the famous Sydney Government order of April 16th, 1831, was enacted, which put a final stop to the trade in Maori heads.

Ladies looking at one of these exhibited heads might wonder if the object ever was loved by wife or sweetheart; men would think rather of what *mêlée* or ambuscade the first owner fell in, and whether friend, foe, or master, used the tomahawk to its neck. It may be observed that the Maoris had splendid teeth and hair, and the shape of the head of good specimens of the old natives is long, with heavy jaw.

A few heads have the real eyes left in, or false ones added; but generally the eyelids are closed, as the Maoris thought that by looking into the empty orbits they were in danger of being bewitched.

As regards the tattooing, which is from chin to the roots of the hair, that which has been cut deeply with the dyed chisels made of bone, shows deep furrows in the skin; this was the old style.

When, at a later period, implements made of iron were used, the tracery was much finer, and the furrows not so deep. Seldom are there marks of pricking; the work was nearly always done by cutting. Of course the black dye looks dark blue on the skin.

In some specimens, the tattooing has been accentuated by post-mortem cuts going over the patterns done during life. The tattoo on the lips does not show well as it was not cut so deep on such a tender part.

The heads exhibited to the Institute are all in good keeping.

2 are heads of men with grey hair.

1 that of an infant.

1 a head preserved by relations.

The remaining ten are warriors, some having wounds. One has a long elf lock which was the old custom of mourning for the death of a near relative as we learn from Dr. Holken, of Dunedin, a great authority on Maori lore.

As no two Maoris were ever tattooed alike, all these are differently adorned, both as regards pattern, quantity, and quality. My book on "Moko" (4to, Chapman and Hall), with 181 illustrations, goes fully into the subject of the Maori arts of tattooing and embalming; it should be of use to the student, many high authorities having aided in the work.

The following papers were read:—

"An account of some skulls discovered at Brandon, Suffolk."
By C. S. MYERS, Esq.

"Social Life in Fanti-land," By Dr. R. M. CONNOLLY.

An ACCOUNT of some SKULLS discovered at BRANDON, SUFFOLK.
By CHARLES S. MYERS, B.A., Shuttleworth Scholar of
Gonville and Caius College, Cambridge.

A. Introductory.

AT Professor Macalister's request, I undertook during the month of July, 1895, to measure and describe this series of sixty-three skulls, then recently secured by him for the Anatomical Museum of Cambridge University. The circumstances under which the skulls were obtained did not allow of my presence at their excavation; but I have visited the spot where the discovery was made, and have gathered all possible information on the matter. Brandon is a village and parish on the borders of Suffolk and Norfolk, which are here separated by the Little Ouse or Brandon River. Lying on the eastern margin of the fens, Brandon has long been noted for its flint quarries, as they are believed to have been worked continuously since the Neolithic Period. The majority of the inhabitants are dark, a feature that contrasts with the general Anglian fairness of Norfolk and Suffolk. Their language and customs are said still to bear evidence of pre-Roman times.^(a) Two Roman camps once lay situated within a very few miles from Brandon. Near them and Brandon ran the Icknield Way, an old road probably built by the Iceni before the Roman invasion.

The skulls were found in a field just outside Brandon within 80 yards from the river. In February, 1894, an infuriated bull tore up the earth at the spot and revealed a skull. No active notice, however, was taken of this discovery until the spring of the following year, when three holes were dug in the sandy soil. The first was crescentic, measuring 18 yards in length, and averaging 3 yards in breadth; the other two holes were smaller, about 8 × 4 yards, and have not hitherto yielded so many skulls as the first. These three holes were dug on the top of a large circular elevation, about 50 yards in diameter, which was surrounded by a depressed area of ground and at no point rose more than 3 feet above the average plain of the grassy meadow. Along the whole extent of the

rise the labourers are fully confident of discovering further human remains.¹ A second elevation lies near it, separated by a slightly depressed area. But in each case the slope is so gentle as to be only noticeable to the observant eye. I cannot find, either in the Ordnance Survey Maps or elsewhere, that the field has borne any name significant of a burial place. Nor have I discovered historical records, local or general, that prove of any assistance. Arrow-heads have been frequently met with in the neighbourhood. Half a mile distant from the field, broken specimens of Roman, British and Samian ware have been found in abundance. Skulls which have never been described and now enjoy private ownership were dug up at Weeting, a few miles from Brandon. Camden makes mention^(b) of the discovery of skulls even nearer to Brandon. The skeletons of the present series were found entire, but it was by no means rare to find parts of the same body separated by some distance. No bones were discovered at a depth exceeding 4 feet. There was a complete absence of display of orientation in burial; it was equally common to find bodies lying over, parallel to or across each other. No ornaments nor any pottery came to light. Large pieces of iron were dug up, but they had so decayed that it was impossible to pronounce on their former use. The soil was sandy, coloured here and there by the rust that had diffused through it. The skeletons of the present series are in remarkably good condition: they include those of men and women which are found in almost equal numbers, of three children and of several horses. In many cases the human calvaria are curiously worn away, even to the diploë, in the form of a ring, as if some heavy instrument had pressed on them. No. 686 has such a character over the right parietal region. No. 708 has a long sickle-shaped groove running from right to left across the lambda and the parietal bones. No. 760 presents a completely circular groove which runs, fillet-like, around the horizontal circumference. A few of the skulls bear holes of which some are of new, others are of old, formation. No. 708 shows a hole in the middle of the right half of the coronal suture; it measures 30×21 mm. and has eroded pits in its neighbourhood. No. 734 has a circular ragged-edged hole, 8×13 mm. below the right squamous suture. No. 761 has a wide, evidently recent gash through the bone on the right of the obelion. No. 759 presents a circular hole above the left occipital condyle. No. 764 has a similar hole on the right squamous bone, 11 mm. in diameter. Of these

¹ Since the above was written, the Cambridge Museum has acquired some additional fifty-eight skulls, which, sharing the general characters of the first find, are not mentioned here save in a few scattered notes.

five skulls which present holes, three are female. I can offer no satisfactory explanation of the holes and annular markings.

Between the skulls of this series there is that general want of resemblance which at once convinces the observer that he has to deal with the representatives of more than one primitive race. There are skulls megaseme and microseme, leptorhine and platyrhine, orthognathous and mesognathous, dolichocephalic and brachycephalic. The burial-ground was that of a tribe or people of impure ethnic character, since between the various types hereafter defined certain skulls of this series show every possible gradation. Inasmuch as there is no historical record concerning these skulls, nor display of orientation in their burial, we may in consideration of discoveries in the neighbourhood assign these remains to a people that lived antecedent to the Saxon invasion. Indeed, there is but one skull (No. 693) in this series¹ that presents in any degree the physical characters of Saxon crania. It has the massive ovoid form, the well-filled appearance, the full, projecting occiput, and heavy jaw with everted angles, which are characteristic of the skulls of Saxon races. If the Brandon skulls date, as there is every reason to believe, from an age prior to the Saxon invasion, the presence of a Saxon in England at this date demonstrates that the Saxon invasion took place more gradually than history would have us conceive, or that Saxons were included in the auxiliary forces introduced by the Romans. Doubtless both these alternatives are true. Even in pre-Roman times, the Iceni were a mixed people. Thus the Roman institution of the *Comes Litoris Saxonica* becomes fraught with a new meaning. On some such hypotheses, the early Brandon folk may well have received a sprinkling of Saxon settlers along the Icknield Way from the eastern ports.

B. Descriptive.

With the exception of a few cases, I have only employed those general measurements and indices which have conclusively proved of value in race-discrimination. I have throughout considered Professor Sergi's energetic protest^(c) against a too implicit reliance on cranial indices when they are unaccompanied by descriptions of the various *normæ*, and I have not hesitated to adopt many of the convenient terms framed by him for the varieties in form of *norma verticalis*. I think that few will be found who consent to the limits to which Professor Sergi pushes his iconoclastic

¹ The further additions to the Brandon skulls include two or three of Saxon-like character.

doctrines; yet I am not disposed to deny the truth of his statement that sexual differences do not really impair nor alter the types under which the crania are classed. Very great experience, however, is necessary before such an admission can be made of actual use in practice.

In grouping the series, I have omitted the six young or distorted skulls (Nos. 681, 697, 701, 706, 711, and 745); these will be considered separately. The normal adult skulls have been divided into three groups, according as they fall within the limits of brachy-, mesati-, or dolicho-cephaly. On the whole, this seems the least unreliable method of grouping for the discrimination of race-characters, although the arbitrariness with which the mesaticephalic group is formed may seem almost Draconian.

Deducting the young, distorted and unmeasurable skulls, we have a series of fifty-one skulls remaining, of which five belong to the brachycephalic, twenty-three to the mesaticephalic, and twenty-three to the dolichocephalic groups. Of the whole series it can only be remarked that the glabella is never prominent, that the supraorbital ridges and glabella in no case form a ridge across the skull, and that a torus is never present. The groups will now be considered in detail.

(a) *The brachycephalic group.*

Of the five skulls¹ four are male, and one is female. In only three are the facial measurements possible.

Calvarium.—The frontal region is broad and the frontal eminences are raised, so that the forehead is full and well-developed. The parietal eminences are also placed high up on the skull, causing the norma verticalis to have a regularly ovoid or ellipsoid form. The zygomatic arches are just concealed in a vertical view. Except for a slight rise in the region of the bregma, the profile of the skull describes an even, uninterrupted arc from the optryon to the opisthion. The skull is very low and somewhat flattened; the occiput is not prominent. Viewed posteriorly, the skull has a much flattened pentagonal form. The lateral walls of the skull project but slightly; the whole calvarium is massive, but neither the mastoid nor other muscular processes are prominent. The maximum occipital point lies about two centimetres above the union. The conceptacula cerebelli are regular and almost horizontal.

Face.—The face is very short and broad. The basi-alveolar

¹ A proportionally small number of brachycephalic skulls occur in the more recent additions to this collection.

length is most remarkably short. The orbits are broad, and the infraorbital portions of the maxilla are deeply sunk, causing the malar bones to seem very prominent. The zygomatic processes of the temporal bones have an exceptionally wide splay. The shape of the nasal bones and of the apertura pyramidalis is not constant; it tends to a rather flattened form of nose and an indistinct inferior margin of the aperture. The palate is small and generally elliptical. The teeth are large, a third molar is present. The mandible is wide and heavy, with everted angles and a small chin.

(b) *The dolichocephalic group.*

Of these twenty-three skulls, twelve are male and eleven female.

Calvarium.—The frontal region is narrow and ill-filled, so that the zygomatic arches which project slightly outwards are visible in a vertical view of the skull. Among the most dolichocephalic skulls there is a tendency to scaphocephaly. Two forms of norma verticalis occur, which depend for their difference on the shape of the always prominent and capsular occiput. The latter varies between (1) an extremely pointed form which gives the norma verticalis an *ellipsoid* shape, and (2) a more rounded, fuller form which causes the roof to appear somewhat coffin-shaped, or, in Professor Sergi's nomenclature, *rhomboid*. The main feature associated with the rhomboid skull is a practically horizontal inferior plane of the occipital bone. The sloping pointed appearance of the posterior end of the ellipsoid skull is not confined to the occipital bone, but often starts from the parietal tubera, and thus causes the outline in profile view to descend with great suddenness from these eminences to the most projecting point of the occiput. The latter point lies a few centimetres above the inion. The skulls are in neither case markedly high. There is some slight flattening in the region of the bregma. The mastoid processes are small.

Face.—The facial length and breadth are variable. The malar bones are large and especially rough and prominent at the maxillo-malar suture. The nasion lies in an often deep depression, overhung by the supraorbital ridges which are strongly developed only on the inner side of the orbits immediately external to the flattened glabella. The nasal bones are thin and generally long. At their free extremity they are arched concavely forwards. The nose is moderately, at times markedly, ridged. The alveolar border of the external nares is generally ill-marked. The mandible is slight, the coronoid process large, and the angle of the jaw non-everted. The prominence of the well-marked

triangular chin is emphasised by a flattening of that part of the alveolar arch which carries the lower incisor and canine teeth. The teeth, poorly preserved, are of medium size; the third molar is never absent. The teeth are worn unusually flat. The palate is always highly arched and almost U-shaped.

(c) *Mesaticephalic group.*

Of these twenty-three skulls, twelve belong to males, eleven to females. As a group, they are intermediate between the members of the brachycephalic and dolichocephalic groups. Since therefore they present no significant type of their own, I have found myself quite unable to describe any features common to them apart from those already mentioned as common to the whole series. I append the sub-groups into which I have divided the mesaticephalic skulls.

(a) The skull No. 693 stands alone in being far more massive, with stouter malar bones, a more arched calvarium, and a more capsular occiput than any skulls in the brachycephalic group. It is the only skull of probably Saxon origin.¹

(β) Several skulls are obviously of mixed type. In its calvarial form and measurements one, No. 686, appears to correspond with the sub-group (γ), but in its facial measurements agrees closely with the sub-group (δ). Other crania, Nos. 687, 735, and 757, also impure, on the whole fall under sub-group (γ).

(γ) The male skull No. 758, and the female skulls, Nos. 701, 709, 710, 746 and 759, present a general resemblance to the ellipsoid division of the dolichocephalic group. The female skulls, Nos. 685, 694 and 734, and with less certainty No. 760, fall in the same sub-group (δ).

(δ) Three male crania, Nos. 714, 743, and 739, show a general agreement to those of the brachycephalic group above described.

(ε) The two very long, broad, capacious but imperfect calvaria Nos. 698, 699, with wide frontal regions, bear a general mutual resemblance.

(ξ) The male skull, No. 703, and calvarium, No. 698, are very like each other in cranial measurements, both of them being on the verge of dolichocephaly. The receding forehead of the latter bears evidence, however, of possible distortion. In another connection I shall give a further description of the former skull.

(η) The female calvarium of rhomboid form No. 708 resembles that division of the dolichocephalic group.

¹ See previous note on p. 115.

(d) *Young and distorted skulls.*

The young skulls are Nos. 681, 697, and 711¹. The two latter are exceedingly like each other, with probably a year's difference in age; the one is cutting, the other has just cut its first molar tooth. No. 681 is an older, almost definitely formed cranium of rhomboid form in vertical view, and of markedly pentagonal form in occipital view. The third molar tooth is uncut; the forehead recedes, the muscular processes are small.

The obviously distorted skulls are Nos. 700, 706, 745. The first is exceedingly scaphocephalic, but is so incomplete as to render a full description impossible. It is interesting to note that the sagittal, coronal and lambdoidal sutures are all well-marked. No. 706 presents an irregular posthumous distortion. In No. 745 the coronal suture is absent except at the stephanion, the sagittal suture is almost obliterated, and there are obscure traces of an epactal bone; the skull is so distorted that the maximum point of elevation of the calvarium lies in front of the vertical plane between the two pteria.

THE SUTURES.

With the following few exceptions, the sutures assume a normal course and character. In No. 676, however, they are strikingly simple; they are simple at the glabella in Nos. 687 and 759. The metopic suture is present, completely in Nos. 695, 713, 737 and 764, and partially in Nos. 688 and 693. The basilar suture is open in No. 707.

WORMIAN BONES.

No wormian bones at the pterion (*ossa pterica*) occur in the skulls of this series. They lie most commonly along the course of the lambdoid suture. Two skulls, Nos. 732 and 745, have an obscurely defined bone at the apex of the lambda. Nos. 710 and 737 bear epactal bones measuring 10×21 mm. and 38×34 mm. respectively; the former shows wormian bones near the right asterion. Immediately below the apex of the lambda there are four small bones in No. 687, three on the left, and one on the right arm of the lambdoid suture. No. 714 bears a bone, 14×19 mm., to the right, and No. 734, two large bones to the left of the apex of the lambda. The latter also has a bone at the left, and two at the right asterion. In No. 688, a bone occurs in the left arm of the lambdoid suture; in No. 735, three small bones are present on the right, and five on the left arm of the same suture. At the level of the

¹ Three or four young skulls are included in the results of more recent excavations.

inion in No. 714, there is a small bone on each arm of the lambdoid suture. Below the right asterion, in No. 733, a bone occurs. At the left asterion No. 689 presents a wormian bone. In No. 693 the bregma bears a small bone; another is also situated at the right asterion; just above the right asterion a small bone occurs in No. 744.

THE PTERION.

Where the sutures are not obliterated, the most common form is the pterion in H. No. 694 has a pterion in K on each side. In the young skull, No. 681, the union of the frontal and temporal bones on each side prevents the sphenoidal and parietal bones from meeting.

THE TEETH.

In the short palates which are specially prevalent in brachycephalic skulls, the teeth tend to become crowded out. In No. 679, the second incisor had never been developed, while the lower third molar teeth are pushed back so far that they lie in the same vertical plane with the coronoid process.

THE INDICES.

(i.) *The Cranial Breadth-Index.*

This varies within the limits of 71.2 to 81.1. The brachycephalic skulls are not so numerous as the dolichocephalic, nor is their character so intensified. They are strongly microseme (78-82), are leptorhine or faintly mesorhine and are orthognathous.

(ii.) *The Cranial Height-Index.*

This ranges from 64.1 to 75.4. Thus no skull is distinctly akrocephalic. Of forty skulls, eleven male, and six female skulls are tapeinocephalic, while thirteen male and ten female skulls are metricephalic. Among the tapeinocephalic the ratio of frequency of the male and female skulls is 9 : 7, and among the metricephalic is 6 : 7. From this calculation follows the rarely drawn conclusion that in the present series the female skulls are somewhat higher than the male. In only two cases (Nos. 758 and 731) are the height- and breadth-indices equal. In one instance only, No. 678, does the height-index exceed the breadth-index. The most tapeinocephalic skulls are dolichocephalic.

(iii.) *The Facial Indices of Kollmann.*

In a certain number of cases the condition of the zygomatic arches rendered calculation of these indices impossible. In other cases it was a matter of some difficulty to fit the lower

jaw to the skull, a long search being often necessary before a skull could be matched with its strayed jaw. The upper facial index varies from 48·4 to 62·6, the total facial index from 83·9 to 90·1: the latter index was obtainable only in six skulls. Relying, therefore, on the upper facial index, I find that the broad-faced skulls are confined to the brachycephalic and the long-faced to the dolichocephalic group.

(iv.) *The Nasal Index.*

This varies from 43·4 to 62·8. Adopting the method of seriation, I find that of twenty-eight adult skulls, fourteen fall into the leptorhine, nine into the mesorhine, and five into the platyrhine group. Nineteen of these skulls have a nasal index between 48 and 52. The two young skulls, Nos. 697 and 711, present an index of 52·8 and 56·8 respectively. The most platyrhine skulls are dolichocephalic, tapeinocephalic and mesoseme; they much resemble each other. In the platyrhine group the male skulls predominate, 4 : 1.

(v.) *The Orbital Index.*

This ranges within even wider limits than those of the nasal index—from 78 to 100. Of twenty-six instances, sixteen male and ten female skulls, seven fall into the megaseme, seven into the microseme, and twelve into the mesoseme group. The ratio of frequency in the male and female skulls in the microseme group is 31 : 20, in the mesoseme group 63 : 20, and in the megaseme group 1 : 10. Only one microseme skull, No. 686, approaches dolichocephaly. This skull is, as has been before mentioned, probably of very mixed descent. The most megaseme skulls are dolichocephalic and orthognathic.

(vi.) *The Gnathic Index of Flower.*

In the orthognathic brachycephalic skulls, Nos. 679, 687, 688, (Bi. = 78·6—81·8), the basi-alveolar line has the remarkably short length of 84–85 mm. The gnathic index throughout the whole series ranges between 86·7 and 105·3. Only one skull, No. 735, a male, is decidedly prognathous (Gn. i. = 105·3). Of twenty-five adult undistorted skulls seventeen—thirteen male and four female—are orthognathous, and seven—two male and five female—are mesognathous. The gnathic index of eleven skulls falls within the limits 91–96. The mesognathic skulls are all dolichocephalic or nearly so, very tapeinocephalic, and never leptorhine nor microseme.

(vii.) *The Palatal Index.*

In relatively few cases was this index obtainable.

C. Critical.

My first impression was that the differentiation of the rhomboid from the ellipsoid form of dolichocephalic crania would prove valueless from the standpoint of race-discrimination. Subsequent constant inspection of the skulls have convinced me that, although there may be a few skulls of pure descent, the majority of the dolichocephalic group belong to no uniform race of men, but show that variety and interchangeability of indices and forms which are so characteristic of mixed peoples. I set to work, therefore, to dissect out from this group elements of British, Roman, Gallic, Saxon and other Teutonic or Celtic nature.

I find that the skull No. 703 and the calvarium No. 698 agree in nearly all physical signs with those of the Long Barrow race; they particularly resemble two skulls of this race of which one was found at Rodmarton, Gloucestershire, and is figured in the "Crania Britannica" (Plate 59), and the other was described by Dr. Garson in vol. xxii of this Journal among the skulls of Howe Hill Barrow, Yorkshire. The Howe Hill skulls, lent to the Cambridge Museum, were unfortunately recalled just previous to my discovery of this resemblance. The close correspondence in measurements is readily noticeable.

SKULL FROM.			Length.	Breadth.	Baso-bregmatic height.	Minimum frontal breadth.	Stephanic breadth.	Frontal arc.	Parietal arc.
1.	Rodmarton	.. ..	201	144	139	?	?	136	143
2.	Howe Barrow, M	.. ..	194	145	133	100	129	126	139
3.	Brandon, 698	.. ..	194	146	133	?	?	125	128
4.	Brandon, 703	.. ..	194	145	133	92	112	131	131

	Occipital arc.	Naso-optic length.	Foremen magnum length.	Horizontal circum-foreface.	Auriculo-bregmatic curve.	Ti-auricular curve.	Naso-mental length.	Naso-alveolar length.	Ext. bi-orbital length.
1*	131	410	?	556	?	?	114	?	?
2	114	379	42	540	309	121	114	64	109
3	127	380	35	540	323	127	?	?	?
4	124	(386)	?	540	323	123	?	82	105

	Bi-auricular breadth.	Maximum maxillary breadth.	Minimum maxillary breadth.	Bi-orbital breadth.	Inter-orbital breadth.	Orbital breadth.	Orbital length.	Nasal length.	Nasal breadth.
1*	132	?	?	?	?	?	?	?	?
2	134	100	63	105	(23)	40	33	52	24
3	?	?	?	?	?	?	?	?	?
4	131	98	64	102	24	39	33	53	23

	Palatal length.	Palatal breadth.	Cranial breadth index.	Cranial height index.	Upper facial index.	Nasal index.	Staphylo-symphysal index.	Goniale index.	Orbital index.
1*	?	?	72	69	?	?	?	?	?
2	54	?	74.7	68.6	?	46.2	96.3	94.2	82.5
3	?	?	75.3	?	?	?	?	?	?
4	53	66	74.7	68.6	62.6	43.6	?	?	84.6

* Compare the first line for an explanation of the skulls.

Nor is the relation between these skulls only discernible in measurement. A reference to the engraving of the Rodmarton skull figured in the "Thesaurus Craniorum" and in the "Crania Britannica" shows that in every point of form the Brandon skull No. 703 offers the closest resemblance to it. This fact may go some way towards establishing the antiquity of the present series of crania, as the existence of so pure a Long-Barrow stock in later years amid an ethnically impure race is at least doubtful.

But this is not the only type of Long Barrow skulls; indeed it is the less familiar of the two which Dr. Garson has been able to differentiate. In the second type the measurements of the height and length of the skull are rather less, the whole cranium is less narrow, the face rather wedge-shaped, and the chin more prominent, while the arch of the skull is more pointed in *norma facialis* and the outline is more ellipsoid in *norma verticalis*. Undoubtedly two of the dolichocephalic Brandon crania, Nos. 676 and 742, belong to this second Long Barrow type. Save that the rhomboid form of the *norma verticalis* is gently persistent, they agree in every one of the particulars just enunciated.

There is no trace of the elements of a Round Barrow race among the Brandon crania. Neither in cephalic breadth-index nor in cephalic height-index do they show any approach to the remarkable hypsibrachycephaly of the Round Barrow skulls. The extreme shortness of the cranium, the height and degree of projection of the parietal eminences, the prominence of glabella and chin—all characteristics of the Round Barrow race—are wanting in the five brachycephalic members of this series.¹

The origin of the Round Barrow race has been much debated from the earliest times of anthropological history. In particular they have been identified by some with the Cimbri, by others with the Belgæ. Our knowledge of the Cimbri, indeed, is no less

¹ They are also absent in those skulls which have come to light since this paper was written.

uncertain. Tacitus speaks of them as inhabiting the Chersonese, *i.e.*, Jutland and Schleswig-Holstein. They have been variously described as Teutonic or Celtic. With greater precision others have associated them with the neolithic Danes. Those who assert that the Belgæ were the Round Barrow race attribute to them the introduction of bronze into England. Now whatever be the origin of this race, whether it be of Cimbrian or of some other descent, it was with fair certainty not Belgic. The provinces formerly occupied by the Belgæ are now inhabited, as M. Collignon has shown, by the longest-headed people of France. Neolithic discoveries in this region point to the same conclusion. Therefore, if any migration of Belgic Gauls took place at or before the Roman invasion, it was a wash not of brachycephalic, but of dolichocephalic people that the British shores received. Dr. Verneau, working on the dolmen at Les Mureaux in the canton of Meulan and in the old Belgic province, has published^(d) measurements and figures of various skulls. These I have compared with the Brandon series in the hope of discovering some traces of resemblance, if ever any Belgic dolichocephalic folk penetrated into Suffolk. So far as comparisons are possible without actual view of both collections, I have been unable to establish any relation between them.

The brachycephalic skulls of the present series are absolutely as distinct from other Gallic skulls, with which I have compared them, as they are from the British Round Barrow type. I have been equally unsuccessful in an endeavour to find traces of a true Roman or Italian element among them. Neither in the Nicolucci collection of the Museum at the Royal College of Surgeons, nor among the skulls described by Barnard Davis in the "*Thesaurus Craniorum*," have I found Italian skulls that show noteworthy resemblance to the Brandon series. The latter do not possess the delicate aquiline nose, the prominent supraciliary ridges, the square face and jaw which are characteristic of the ancient Roman race. Of what race, then, are these brachycephalic Brandon skulls? Decision so far has been guided solely by the method of exclusion; we are in a position to say what they probably are *not*. Beyond criticism of this negative character I have nothing to offer. Perhaps I may add one note which I find that I have made. In the Cambridge Museum there are several skulls styled Romano-British, resembling the brachycephalic skulls of the present series. They may be the results of similar conditions of intermarriage.

There is considerable evidence to show that a large Germanic population was introduced at the Roman invasion. In many cases, at least, the German chiefs were allies of the Romans

and with armed followers were brought over to England, being entrusted with the conquest of various parts of the country. Latham quotes^(c) from a panegyric of Mamertius to prove that as early as in the reign of Diocletian (284-305 A.D.) there were Germans in Britain. Moreover, in the reign of Constantine the younger (337-340 A.D.), Crocus, an Alemannic king, was proclaimed emperor at York. Still later, within twenty miles of Brandon, Buckenham in Norfolk was probably the settlement of the Bucinobantes (about 372 A.D.), an Alemannic tribe who with their chief Fraomar landed in Britain under the orders of Valentinian. Ammianus Marcellinus (fl. 380 A.D.) locates the home of the Bucinobantes opposite Mainz on the right bank of the Rhine, and states that Fraomar was given the authority of a tribune in England (Bk. xxix, chap. 4). Tacitus again speaks of certain German tribes that had fought (69 A.D.) with great bravery in Britain ("Hist.," iv., 12). Indeed, extending from Cæsar's mention ("de Bello Gallico," v, 12) of the migration of continental tribes into Britain down to the times of the Anglo-Saxon invasion, ample evidence exists to show that from a very early date various Germanic peoples began to settle in this country.

The Alemannic skulls conform to a type which at the hands of Germanic anthropologists has received the name, *Reihen-gräber* or *Grave-Row*. I have been impressed with the likeness of certain skulls in the present series to many of the old *Grave-Row* type, and I venture to publish the results of my comparison, seeing how near to Brandon an Alemannic tribe had probably once settled. So far as I know, it is the first attempt to establish a definite relation between these Alemannic tribes and the early people of Britain. The characteristics of the *Grave-Row* type are summed up by Ecker^(f); they are in every way applicable to the ellipsoid division of the dolichocephalic Brandon skulls. The cranium, he says, is long, the forehead rather narrow and frequently low; the superciliary arches are generally well-developed, the vault is either flat or rises from the temporal crest to the sagittal suture like the sides of a roof; the parietal tubera are insignificant except in children and women. "Above all the marked development of the occiput is especially characteristic." The great occipital projection, he continues, is in the form either of a cone or of a pyramid. The maximum occipital point lies above and behind the external occipital protuberance. The infranuchal plane of the occiput is nearly horizontal.

In thus condensing Ecker's description I feel that I am merely re-stating the characters of the ellipsoid group of dolichocephalic skulls. I pass over the work of v. Hölder, whose

conclusions are substantially those of Ecker, and come to the more exhaustive papers of Gildemeister. This anthropologist divides the Reihengraber type into two divisions, according as the parietal eminences are strongly or feebly developed. In certain features the Brandon skulls appear to agree with the one division, in others with the second division which Gildemeister, to my mind somewhat arbitrarily, has thus made. Like Ecker,⁽⁸⁾ he lays stress on the absolutely peculiar prominence of the occiput, the height of the orbits, the delicacy of the upper jaw, the length of the palate and the degree of orthognathism, features all of which are noticeable to a varying extent in the ellipsoid group of the present series. Out of the seven skulls (three male, Nos. 713, 736, 738, and four female, Nos. 709, 710, 746, 759), which perhaps most markedly bear the Grave-Row or "Batavian"¹ characteristics, not one allows of the usual measurements being completely taken. I am unable, therefore, to present collaterally the indices of the Brandon skulls with those of the Alemannic crania. But to my mind there is little lost by this, since the averages deduced by His, Ecker, v. Hölder and Virchow from their respective measurements differ from each other considerably. The average cephalic index of the type is variously computed to be 70·7, 71·3, 72 and 74·9. The height-index ranges from 67 to 78·2. Lastly Gildemeister shows three female skulls in the Bremen collection which have a nasal index of 54·0, 63·1, 55·0 respectively. However, in spite of the obvious admixture of alien blood in later times, there is every reason to believe that the Grave-Row type, which so many anthropologists have emphasised, formerly existed pure. The types which Gildemeister figures may therefore be accepted as genuine, in spite of the subsequent penetration of the allied Saxon and of eastern elements. I venture to say that the outlines of these skulls as seen in the accompanying plate convince one with far greater eloquence than would a column of indices and measurements.

History and physical anthropology tend thus to show the settlement of Alemannic tribes at Brandon. Beddoe speaks of the Alemannic as a fair-haired people sprung from a stock common to the Saxons and Franks. Now dark and red hair has also been found in Alemannic graves. The predominance of black hair in Brandon at the present day would therefore lead one to conclude that the pure Alemanni had a high index of nigrescence or that the dark-haired British have prevailed over their fair invaders.

¹ Except that they are lower and have a more prominent temporo-parietal region, the "Batavian" resembles the Grave-Row types.

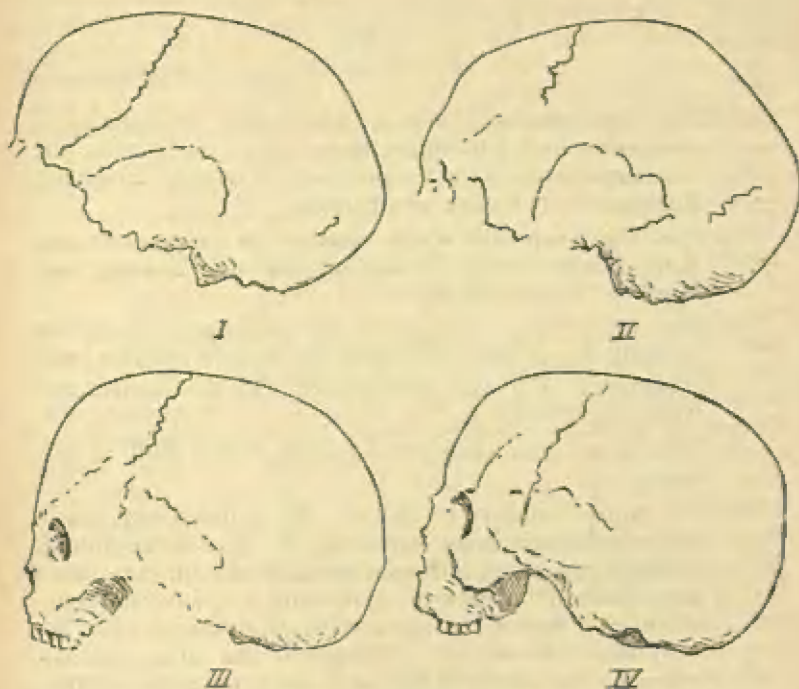
SUMMARY.

- (1) The brachycephalic skulls, which are orthognathous, microseme and leptorhine, agree most closely with the "Romano-British type" which is to be found throughout England in old Roman settlements.
- (2) The dolichocephalic skulls resolve themselves into the Long Barrow types (of Garson) and the Reihengräber types (of Gildemeister).
- (3) The platyrhine, mesognathous, mesoseme group of subdolichocephalic skulls may owe its occurrence to the appearance of Slaves concomitant with the Roman invasion of Britain.
- (4) There is not more than one definitely Saxon skull in the series.
- (5) The larger number of skulls exhibit characters intermediate between these various types. The burial-ground belonged, therefore, to a people which had for some time been living in a state of friendship and intermarriage, although composed of such ethnically diverse races as have been dissected out. Villages of the neighbourhood retain to this day evidences of a once prevalent system of strict endogamy. The existence of this custom induces the anthropologist to place greater reliance in his conclusions, especially when, as in the present series, the proof of the antiquity of the skulls is extremely unsatisfactory.

For allowing me the material for this paper, and for ever-ready and valued help, I have to express my sincere gratitude to Professor Macalister.

References.

- (*) "The Races of Britain." By Dr. John Beddoe. (Bristol, 1885.)
- (*) "Britannia." By Camden. (London, 1586.)
- (*) "Le Varietà Umane." Principi e methodo di classificazione. By Dr. Giuseppe Sergi (Turin).
- (*) "L'Allée Couverte des Mureaux." By Dr. Verneau. ("L'Anthropologie," 1890.)
- (*) "The Ethnology of the British Isles." By R. G. Latham. (London, 1862.)
- (*) "Crania Germanica meridionalis occidentalis." By Dr. A. Ecker. (Freiburg, 1865.)
- (*) "Ein Betrag zur Kenntniss norddeutscher Schädelformen." By Dr. Gildemeister. ("Archiv f. Anth.," 1878.)



Explanation of the Plate.

FIG. I.—No. 736 of the Brandon skulls.

FIG. II.—A variety of the Grave-Row type.

FIG. III.—No. 760 of the Brandon skulls.

FIG. IV.—The "Batavian" type.

FIGS. II and IV are copied from Gildemeister's paper (*loc. cit.*). They are also to be found in Beddoe's "Races of Britain" (pp. 46, 47).

SOCIAL LIFE in FANTI-LAND. By R. M. CONNOLLY.

LIFE on the western coast of Africa, whether one be trader or official, French, German or British, would be as desolate as Ovid found his residence at Tomi, did not the mind find a diversion in a vigilant observation of the habits of the primitive folk. There is frequently a disposition on the part of a white population sojourning among a negro people both from a sense of superiority and from familiarity to regard native customs, symbols, and beliefs, as unworthy the attention of an European. But in an explanation of these lies a power as great as that of the wand of Prospero to drive the clouds of darkness from many

a practice whose origin is lost in antiquity. In such a country as the Gold Coast with its hinterland of Ashanti, no native ceremonial may be passed unnoticed without a loss of information useful to the official and to the anthropologist. Even in travels through parts of the Fanti country densely populated and for a long period within the reach of whatever civilising and religious influences may exist in the coast towns, there are habits and survivals of older habits puzzling to the inquirer.

On a journey from Salt Pond—Akimfu is its native Fanti name—in the rainy season of 1894, my first stopping place was a large native town called Mankessim, only eight miles from the coast. The sides of the broad road leading to it, which may be considered comfortable enough for West African residents who have to travel long distances by hammock, were cut through red clay and sloped to a channel in the centre by the torrents of rain, but were pleasantly bordered by a profusion of wild flowers, by some species of laburnum, and by a common flower which may be called an African marigold (*Fufin*, F.). Plantations were too rarely met of cassava neglected and overgrown with weeds, or of corn, then ready for the harvest home, through which flew the bright-coloured Cardinal-birds and the hollow-noted Afrua or Clock-bird¹ (*Corythaix Persa*, L.). It was a Wednesday, and when the market-place was reached, it was found to be covered with kenki-leaves, the debris of the day's market, for that day and Saturday are market-days. The kenki called *Dōkun* is composed of the grain of the Indian corn, washed and ground in ancient style between two stones, boiled, strained, and then hardened into round balls varying from one to three pounds, covered with the corn leaves.

The town of Mankessim was large, of the usual regular African pattern, with four roads parting from the centre to the points of the compass. Many stages of evolution in house building were visible, from the little bamboo and plantain hut to the red clay or *swish* huts with a lattice-like reed mat covering the windows on the outside, and to the white-washed swish houses with shutters or even jalousies. Of course there was a Wesleyan school, but far more interesting was a Haūsa cantonment where there was the workshop of a blacksmith (*otōnfu*, F., *makēri*, H.), full of bolts, hinges, and cutlasses made from hoop iron, and where might be seen a *wurin-salla* (H.) or Mohammedan place of worship shaded in front by the Ahonton-tree, and behind by the well-known Haūsa-named Baggarūa, a species of sand-box. The *wurin-salla* was merely an enclosure like a wattled cote, with a prayer-mat or *bazu* (H.) in the Mihrab or corner pointing towards the east; and from the little

¹ This bird is known to Germans as Hollenkurako.

gate slung by lianes one could hear proclaimed by the Mallam the same call to prayer that sounds from the mouth of the imaum from a Turkish mosque.

There was a square in the town surrounded by enormously tall cotton-trees, whose lofty tops no doubt occasioned the name *ñkäröpon dāse*, F., or eagle's seat, whilst the ground was called *ntsira' dāse*, or resting place of skulls. This name then was almost the only mark to indicate that this town was the former capital of the Fanti-speaking tribes or indeed divided that honour with Abrakrampa. The heads of all criminals after decapitation were here exposed, and the bodies cast to the vultures. As I walked over the square, attracted by its name of evil omen, I came upon a couple of skulls not yet completely hidden by the accumulations of the years. What were the spirits that tenanted these bone prisons, it is idle to ask. The African execution destroys or rather destroyed the name of the victim as effectually as it quenched his life. When the decision of the Court of Elders had been given by the voice of the chief, if the sentence were one of death, the wretched culprit was immediately taken from the king's palace, brought to the place of execution, forced to kneel down, and thus beheaded. The body was cast away as a polluted thing to the vultures, the head left exposed in a public place such as the *ntsira' dāse*, on the ground or on stakes, as a warning to offenders of chiefs, and the name of the dead, now become a superstitious cause of ill-fortune to those that pronounced it, passed for ever into the eternal silence.

Nearly a year later, in the rainy season of 1895, it was my duty to ascend the river Pra, or Būsūm Pra, i.e., Fetish or Spirit Pra, for about twenty miles to a lonely village, placed sheer on the bank with a waving background of plantain groves and palm trees close behind. There an inquiry had to be opened into a thrilling story of three murders and a suicide. It appeared that a farmer named Kwabina Damua had two wives and one daughter, and, being of a violent disposition, treated his household badly. His mother, desirous to avenge the injuries of her daughters-in-law and to punish her son for his domestic tyranny, pronounced over Kwabina the curse of Kātēwir, a curse whose effects are partly a species of boycotting, and partly the results of a belief in a personal Nemesis, who brings the unhappy man, over whom the curse is pronounced, into a state of frenzy. The use of this oath is punishable under British law on the Gold Coast by fine or imprisonment. The immediate consequences of the taking of the oath by the mother against her son were that he, after a declaration that he had to obey Katewir, backed his two wives and daughter to pieces and blew his own brains

out. Such a yoke has custom fortified by antiquity and by the terrors of ignorance imposed on this rude people, that life is sacrificed and names are unmentioned in deference to usages of which the savage even is sceptic but which he yet fears to break.

Extent of Fanti-land.—The two districts alluded to, Salt Pond reaching to Winneba, along the sea-coast eastward, and Chama, on the Pra, reaching to Princes River on the west, may be considered the marine frontiers of the Fanti people. Indeed, some are of opinion, including many natives, that Fanti-land properly so-called, ought to extend on the sea-coast only, from Cape Coast Castle to Winnebah. Inland, Fanti-land spreads out like a fan, reaching to the headwaters of the Pra among the Kibbi hills on the east, and having Ashanti on the north, reaching to Sehwi on the west, where a language akin to Fanti is spoken. Fanti-land does not, therefore, comprise all the British possessions of the Gold Coast, for our western boundary is a line conterminous with French possessions running north to 9° and 10° N., and nearly 5° W. of Greenwich, and our eastern boundary is with German Togoland, the River Volta, where it issues from a neutral zone nearly in the meridian of Greenwich and 8° N.; and there is an undefined hinterland. But the language Fanti is that chiefly spoken, most generally understood, and may be considered the principal descendant with Ashanti of a language perhaps Twi, which is usually regarded as the parent of Ashanti, Fanti, Akim, Akuapim, and modern Twi.

The traditions of early migrations among the Fantis are so entangled that it is difficult to evolve a continuous narrative out of them. Former writers, such as Cruikshank and Bowdich, in whose days these traditions were piously guarded by the chiefs as part of their inheritance, found them so incredible that they paid little attention to them, beyond deducing from them that the Fantis and Ashantis were originally one race, driven from the interior of Equatorial Africa towards the sea-board by the pressure of conquering enemies. There are many words in Fanti to indicate plants and animals which do not now exist in the country, or which, like the horse and the cow, may never have been known to exist there, but which abound in the Grunshi and Moshi countries west of the Kong mountains. These regions have been always the special purlieus and preserves, and are so, even still, of the Mohammedan slave raiders from the countries on the Niger, and it is probable that long before the introduction of Mohammedanism, the manlier ancestors of the Fulas and Haŭsas drove the less hardy Fantis and Ashantis into the primitive forest from the open plains and slopes of the hills.

Origin of Name and Race.—The word Fanti, which is merely an English pronunciation for Mfantasi, is supposed to be derived from *fan*, the name of a vegetable like wild cabbage, and *ti, di*, or *dzi*, to eat, the explanation being that the Fantis, in their first keen necessities on entering the northern limits of the primitive forest, were obliged to subsist on some such plant. A similar origin is sought for the name Ashanti, from *Asan*, an unknown plant, and *ti*. It seems as likely that the word might be *o-sa*, war, *nsā*, strong drink, or *o-san*, a barn, for they would all indicate the peculiarities of the negro and his passionate references, in which he cannot be said to be alone among mankind, to the delights of food and drink. However true this be, there is no doubt that the Fanti belongs to the Great Bantu stock, both in race and language, whose members reach from Senegal to Tanganyika and from that sheet of water to the land of the Hottentots. Interspersed among these races may be found peoples like Jollofs, Bambaria, Fulāni, and Haūsa, who can hardly be considered the same, and for whose race and language the term Hamitic seems more appropriate. The Haūsawa or Haūsas form the irregular troops in Fanti-land, and have gradually created settlements there, characterised by industry, order and respect for authority.

Division into tribes.—Traditional legends among the Fantis state that very early some wise seer divided their nation for government into seven tribes, but the names of these tribes and the purposes for which they were used indicate a system of totemism, combined with a practice of exogamy, or marrying out, which it is considered amongst the natives of the greatest benefit for the improvement of the species to comply with, even at the present day. The names used are mainly old words, nearly obsolete, some indeed, fallen completely out of use, though the meaning is known. They are:—

1. *Kuōnna* = buffalo.
2. *Etchwi* = leopard, the common name is *o-sibé*. *Gyākin* = panther.
3. *Eś* = bush-cat, or fox.
4. *Nitchwa* = dog, but this is never used to signify dog, except in a part of the country where the people are said to be older than the Fantis, that is, in Ahanta.
5. *Nnūna* = said to mean parrot, and to indicate patience, the common word for parrot being *e-wirū*. *Anūna* = bird.
6. *Ebradzi* = the old word for lion, the modern one being *Awindōdzi*.¹ *Abradzi* or *Ebradzi* means also plantain.
7. *Abrutu* = corn stalk, or *O-bertu* = puff-adder-hole.

¹ Another word for lion, rarely used, is *Sarmesda*, meaning the eunuch of the desert.

If the last two symbolise by the meaning, a species of progress from hunting to agriculture, especially in those branches to which the negro is most devoted, where the labour is trivial and the harvest considerable, they were totems probably taken long after the others, and express perhaps a significant increase of population in early days. A Kwonna man could marry only an Esó girl, and *vice versa*, and so with the others. These tribal divisions are in reality totemic and not a gradual growth of clans or families under the leadership of individuals. The essential characteristic of the clan, that all are supposed to be of the same blood as the chief, is here absent, and the external totemic distinction produces no bond of kinship or hospitality which exists among members of the same family, however widely separated from each other and from the common ancestor. Consanguinity, remote though it be, is still a living factor among tribes who have the universal proverb—though some African water is quite as thick as blood—whilst the totemic symbol, like a church in decay, loses every day some of its influence and mystery.

The Fantis then are negroes, inhabiting a small part of the sea-board of British West Africa, and about 20,000 square miles of the interior, and number approximately one million. The average Fanti is rather of a dull brown colour than of the black seen on the Gambia and the Congo, and, to parody Suetonius's description of Caesar, might be spoken of as a man of dark brown complexion, dark eyes, curly black hair, medium stature, and well formed limbs. The average height is 5 feet 6 inches, such being my experience in measuring recruits. The features are pleasing, both in activity and repose, and, though the nose be flat and the lips protruded, the face, whilst having prognathous jaws, is not unduly platyprosopic. In fact, a well-built Fanti, of good colour, when dressed in decent native attire, has an attractive presence, and may be regarded as equal in appearance to the best members of the Hamitic stock, the Fulas and Haúsas, though devoid of their quiet dignity. The same remark holds good of the women, many of whom in the better families, where there has been no intermixture of slave blood, have such regular features and light colour that they might be called pretty.¹

All alike, men and women, have the odour peculiar to the negro, whilst negroes profess to detect a peculiar smell from a white man. The odour varies from a faint almost indefinable toilette vinegar-like smell in a clean and inactive negro to a powerful emanation like the smell of mixed rancid butter and

¹ The *face marks* of Fanti—to indicate Fanti origin—are three cuts in front of the ear on each side in a line parallel to the ramus of the jaw, and are known in Fanti as *etua*, i.e., scars, merely.

burning feathers or hair in a negro actively employed and perspiring, and possibly not over-clean. There is no doubt that it does not depend on neglect of the person, as the Fantis are very careful of the body, and the women, in particular, are very clean in their habits, and even attempt to disguise the odour which they are conscious of possessing by the use of various perfumes, one of the commonest used and the most pungent being derived from the excrement of snakes. The odour is probably derived from the insensible perspiration and exudation from the sudoriferous glands and sebaceous follicles of the skin, and is not lost in the mulatto. English dogs, when brought to the Gold Coast, particularly fox-terriers, who do not lose their sense of smell like many other breeds, are keenly sensitive to the odour of the negro, and show the fact by unmistakable signs.

Language.—As was mentioned before, the Fanti tongue is now the principal descendant of a parent that may have also bequeathed Ashanti and Twi to posterity, and there is so little difference between these branches of the one stem that Fantis understand Ashantis better than Brandenburgers do the peasants near the Upper Rhine or than labourers from Somerset would the miners of Yorkshire. There has not to my knowledge been a single trace of an attempt at native writing found in the whole Fanti country, though in Awūna, east of the Volta, traces of marks intended to be signs for sounds have, I believe, been discovered. It was necessary therefore to reduce the language to writing, and, unfortunately, the natural difficulty of the language has been vastly increased by the dissensions of the learned men who undertook the task. There is one admirable example of an African language, admirably reduced to writing, Haūsa, as given to the world in grammar and dictionary, by the late Rev. J. F. Schön. This illustrious scholar of Haūsa kept as close as possible to the Lepsius standard alphabet, and produced books which make it now almost as easy to learn Haūsa as Italian or German. The students of Fanti were in different stages of European scholarship, and accordingly produced works, in extraordinary spelling and accentuation, some written phonetically right through like Christaller's Chwi or Twi Grammar, others written with some regard to the origin of words, derivatives, compounds, and plurals, but without regard to the fact that certain English letters have sounds too peculiar and too special to England to be of service universally.

As regards sounds, the language is markedly nasal, with singular mixtures of sibilants and harsh palatals. Here is the Lord's Prayer as it is said in Fanti:—

Eweradzi n'asor.

Hen Egya a iwo sur, Wu-dzin hū ntsiwi, w'ahindzi mbra, wonye

w'apedzi wo asisi du, de mbre woyen' wo sur. Ma hen nde su hen dada edziban. Na fa hen mfum fir hen, de mbre hen su Yedzi fir hon a wofum hen. Mma ngya hen nko ngyigyem; na yi hen wo mbusum'.

Osandé ahindzin' onyi tumn' onyi enyimnyamn' oye Wudzi, Dá, Amen.

Words depend so much on intonation or emphasis for their meaning that simple root-words are frequently used to express the most opposite significations. Thus in the above prayer, *yi* means to take away, to deliver; it is also used to mean *to make, to add to*, with a difference of sound perceptible only by a native ear. A simple radical like *tu* becomes as perplexing as the different colours of butterflies, pronounced or rather intoned in different ways, incapable of being reproduced in orthography, in order to mean such opposite ideas as

- ty* = to pull out.
- tú* = to put or place.
- tù* = to overtake (as on a journey).
- tū* = to transgress or cross a boundary.
- tū* = to die of small pox.
- tū* = to bake, which reduplicated.
- tātū* = to roast.

excluding from this list such sounds so similar as

- tye* = to boast.
- tue* = to fling or to shoot.

Without pressing this point further, it will be sufficient to give a list of more difficult native words taken at random.

- ká mobor* = to have mercy.
- nkud* = life.
- ahyedzi* = commandment, from *hye-dzi* = to put on (appoint) a thing.
- ankwá* = sand.
- Awotchi* = 8.
- áhwirumba* = a whistling sound, from *hwiro* = to sip.
- Ehwechye* = carelessly (probably from *ehue* = a puff of wind.
- achinhe* = looking-glass (from *we* = to look).

The language is further singularly rich in onomatopœic sounds, and in re-duplicated or triplicated simple words to express whether as adverbs, nouns, or verbs, intensification of meaning. Thus the sound *acanká* expresses the idea, to sneeze, *owá* denotes a cough, *wia* translates to creep, and "he went on creeping" is *oawíawia*. *Huròhurò* is the word for lungs, imitating the act of breathing, coming from a word *hurò*, to hoot, or to do something quickly. Derivatives from this root all preserve shades of the primitive signification, *hüròhürò*, meaning at random or in heaps, *hürònhürò*, furiously (like a burning fire), and *ehuráhurá*, the act of jumping, whilst a compound *hurutututu*, means the raging of the sea. With the exception of the word for dog's bark, *húd*, the words expressive

of the notes of animals are employed for human sounds, thus *bóm'*, denotes the roar of a leopard, or of a man, *sá*, the cry of a cat or of a child. There are not to my knowledge any special words to denote the sounds of parrots or monkeys, though both abound in the Fanti forests, and a native would speak only of *adw-kásà*, monkey-talk, or *e-wiriù-kásà*, parrot-talk.

Reduplications.—If these words are reduplicated, the meaning is intensified as in most primitive languages, similar to the repetitions of adjectives by country people, and to great-great in the word great-great-grandfather. Thus:

<i>Kásà</i>	= talk.
<i>Kásà-Kásà</i>	= excessive talk.
<i>Sakà</i>	= confused.
<i>Sakà-Sakà</i>	= in frightful confusion.
<i>Nántsiw</i>	= to walk.
<i>Nántsiw-Nántsiw</i>	= to keep on walking.
<i>Gyám'</i>	= to moan.
<i>Gyámgyámgyám'</i>	= to keep on meaning.

Nearly every verb is capable of reduplication and triplication.

Grammar.—In the scanty grammar of this language, a philologist will perhaps be ready to recognise the existence only of nouns and verbs, with the addition perhaps of a few adjectives, denoting colour or primitive qualities. The adverbs are simply forms of nouns, and tenses of verbs go to form prepositions which, having not yet quite abandoned their verbal characteristics, undergo changes with nominative cases. Interjections, of course, exist, such as *ebē*, alas, *āmpà*, indeed, and pronouns, which, except for emphasis, are never used apart from verbs or so-called prepositions. There is no article, but a vowel sound generally similar to the predominant vowel sound of the noun, occasionally, precedes, when the noun stands first or is prominently marked out. In this manner we can explain, *O-ābbò*, leopard; *ō-dān*, house; *I-guā*, a market, or Cape Coast Castle.

Nouns.—There are no cases for nouns, such as may be understood by special forms, the genitive or possessive being simply composed of two nouns joined by a pronoun, or pronominal adjective, thus my father's garden becomes, *m'egya nu ture*, my father, his garden, just as was written two centuries ago by mistaken pedants, who imagined the ending of the Saxon genitive 's was a contraction for *his*. But there are very elaborate plurals, a few of which it will suffice to mention. There are, generally speaking, three methods of forming the plural in Fanti:

First, by prefixing *n*, or by changing such a prefix as *o*, *i*, *a*, into *n*, which before *b*, *p*, *f*, is usually *m*, as,

<i>O-nyimpa</i> , man	becomes <i>nnyimpa</i>
<i>i-bua</i> , fishing net	" <i>mbua</i> .

<i>ebua</i> ,	tobacco pipe	becomes <i>mbua</i> .
<i>abua</i> ,	animal	" <i>mbua</i> .
<i>afi</i> ,	a comb	" <i>mfī</i> .
<i>ofie</i> ,	home	" <i>efiefī</i> .
<i>afem</i> ,	a leopard	" <i>mfem</i> .
<i>eba</i> ,	child,	" <i>mba</i> .
<i>Pampam</i> ,	crown of the head,	" <i>mpampam</i> .

Such words are generally radicals.

Secondly. In the case of words, mainly compounds, ending in *nyi* and *fu*, the termination *nyi* becomes *fu* (*fu* undergoing no change), and the prefixes are changed from open or long vowels to close or short ones, as—

<i>obibinyi</i> ,	a blackman,	becomes <i>ebibifu</i> .
<i>obayifu</i> ,	a wizard,	" <i>abāyifu</i> .
<i>ofarinyi</i> ,	a fisherman,	" <i>afarifu</i> .
<i>opimpinsinyi</i> ,	an extortioner,	" <i>opimpinsifu</i> .
<i>Asutinyi</i> ,	an Ashanti,	" <i>Asantefu</i> .
<i>Mfantinyi</i> ,	a Fanti-man,	" <i>Mfantefu</i> .
<i>Opányin</i> ,	a chief,	" <i>mpányimfu</i> .

Thirdly, names of relations form the plural by adding *num*, or *nu*, generally contracted into *n*, as:—

<i>egya</i> ,	father,	becomes <i>egyanum</i> , <i>egyām</i> .
<i>e-ū</i> ,	mother,	" <i>enatum</i> , <i>endū</i> .

Verbs.—The tenses of verbs are very simple, consisting of present, past, and future, as:—

<i>mudo</i> ,	I love, present.
<i>mudó</i> ,	I loved, no change for singular or plural.
<i>mukodo</i> ,	I shall, future.

There is also a progressive present as from *ba*, to come; *mireba*, I am coming. This verb *ba*, forms also its future regularly with *ba*, to come, not with *ko*, to go; thus *mireba*, not *miķeba*. There is also a preterite formed by prefixing a vowel sound to the verb, thus:—

Ordinary past,	<i>obā</i> , he came.
Preterite Def.	<i>oāba</i> , he has come.

There are no second perfects or futures, probably because computations of time are burdensome to the negro, in whose country time is "no object."

Adverbs there are such as *sakāsakā*, in heaps, *kōm*, quiet, or quietly; and mention may now be made of prepositions used as adverbs, which were originally nouns. *Du*, on or upon is merely the top; *wo pun' du*, on the table, is merely, by the table, the top. *Dadzi* or *dase*, is another, denoting ground and hence rest in a place, as *nkūrōpon dase*, the eagles' rest. Prepositions like *fī* and *fīr* (meaning *from*, i.e., motion from), are still in the process of degradation from verbal authority as:—

Na hwe enyansafo fi bukà lá Yerusalem.

"And lo, wise men from the east came to Jerusalem."

Fi here is regarded as governing *bukà*, east, but cannot be used alone.

One ought not to forget to remark that there is no passive voice in Fanti, the third person plural being employed instead, as Jesus was born,

wowù Yesu wo Bethlehem.

"They brought forth Jesus."

The negative is denoted by the use of the nasal sound *n*, as *mombai*, I did not come; *muroko*, the present progressive, I am going, but *minyinko*, I am not going. It is interesting to compare the employment of the negative in interrogative and answer with that of classical languages in such phrases as, *Ana inyinko?* Are you not going? *Nyew*, yes, i.e., *I am not going*, a negative answer. *Muruko*, I am going, is the simple affirmative answer.

Adjectives are fairly plentiful in the language, and are used as adverbs and are most frequently reduplicated to express diminution or excess, as *kitsi, kitsi, kitsi*, very small; *kasi kesikesi*, very large. Like nouns they form plurals, generally by the prefix *a*.

Colour sense.—But to express differences in colour the words are very few, and the colour sense of the Fantis seems remarkably deficient:—

Black is, *tântûm*.

Blue, *bibiri*, the same word as that for black man, for to the negroes their own colour is blue.

Black country, *Ebibirim*.

Negro language, *Bibikása*.

Native medicine, *Ebibidûr*.

Red, *mimin*, or *kô*, not an usual word.

White, *fufû*.

Green and yellow are seldom distinguished by an untutored negro and the latter is moreover often confounded with red. There is practically no word for yellow, but *mbôwîma* is used to translate green, being the proper word for "bile," a physiological constituent too common in a malarious country like the Gold Coast.

Name for white man.—It is interesting to observe that the name for white man is unconnected with any idea of colour and is *Bārōnyi*, a compound of the usual ending, *nyi* and *bārô*, a word which does not stand alone, but which enters into many words, all referring to European matters. I have not been able to discover the meaning of the root, for the derivation of *Abtêrkyir*, England or Europe, from *Abârêkyir*, i.e., behind Abura, cannot be defended and is solely due to the similarity of the words. It may be from *bârô* or *bârôbârô*, pure, genuine, or have some

reference to *buró*, an ancient word for corn, said to have been introduced by the Portuguese. *Büróba* is a grain of corn. As instances of the use of this root in compounds, the following may be cited:—

<i>abüróba</i>	= a mulatto.
<i>ebüróban</i>	= a corn-cob.
<i>bürófir</i>	= papaw (i.e., from white man).
<i>bürófu</i>	= English language.
<i>bürófu-káma</i>	= English thread.
<i>bürófu-nsa</i>	= invoice price, lit. white man's hand.
<i>bürókyew</i>	= big hat.
<i>abürónúma</i>	= pigeon, white man's bird.
<i>Bürónya</i>	= Christmas.

In fact almost any article brought from Europe may be designated by the use of the prefix, *büró* or *bürófu*.

Derivatives and Compounds.—From the different Fanti words already used, it is abundantly clear that derivatives and compounds are easily formed. Nearly every single root-word may be taken and, like a German radical, brought through a whole gamut of derivatives. Or it may be combined with other words to form more complex meanings. Except in the case of compounds, where two or more words are brought together unchanged and where an ending is then given to the new word, the new complicated words are the result of idiom and are in reality gerundial phrases. Thus:—

o-sófu is priest, *panyin*, chief.

o-sófu-panyin, high priest, pl. *asófu-mpanyin*.

In such a case both words are distinct and change for the plural in the compound.

2. In another way the two words are blended together to form a new one and have a new ending, *ahen*, canoe; *tua*, the end; *ahentunyi*, helmsman, plural, *ahentufu*.

3. Of a different kind are words like *nsahwé*, temptation; *bondédzi*, leisure work; *ahumgú*, breathing; *ahumgye*, repose; *ahápe*, love of dress; which are formed of two verbs or of a verb and a noun, and which readily return to a separable state. *Oson' hwe*, he tempted or tested him; *odzi bondo*, he does leisure work; *orugu ahum*, he is breathing; *origye ahum*, he is taking rest; *ope nu ha*, he is fond of dress, lit. of his person. This last peculiarity makes Fanti difficult for Europeans to learn, and those who succeed best, learn the language by acquiring a knowledge of idioms and sentences, not of single words.

Use of Concrete for Abstract.—There is still, however, a more serious difficulty, the use of the concrete and the objective for the abstract and subjective. It is probable that in the beginning, when among all primitive peoples, words for hunger, thirst, cheerfulness, pride, anger, and similar conditions arose,

the words had a reference to the particular part of the body affected by the feeling, of which some inward sensation was experienced or outward manifestation given. In Fanti at this day the original words have not yet lost their meanings, which are most readily grasped when we turn a crank on our minds and wrench them back to the days of childhood again.

I entreat you, becomes *mipaw' kyew*, I take off the hat to you. He has ill-will towards me, *oenyam' minasi*, he casts his eye loftily at me.

Ebufwe is anger, and *nu bu efwe*, he is angry, but it is quite literal in Fanti and means "his breast swells."

Oyem' dew dɛ, means I am glad, but literally it makes sweetness for me.

The Numerals.—The numerals up to 20 are as follows:—

1. <i>Ekur</i> .	8. <i>Awotchwɛ</i> .
2. <i>Ebien</i> .	9. <i>Akràn</i> .
3. <i>Ebiɔsa</i> .	10. <i>Idɔ</i> .
4. <i>Anan, banan</i> .	11. <i>Du-biakɛ</i> .
5. <i>Enɔm</i> .	12. <i>Du-ebien</i> , and so on.
6. <i>Eɔsa</i> .	20. <i>Eduonnu</i> .
7. <i>Eɔon</i> .	

A common way of counting after 20 is to say *Eduonnu-idɔ*, 20, 10, and on arriving at 40, to say two score, but natives who come in contact with Europeans, quickly find the advantage of using a less complex method. *Anan*, 4, is the same word as *onan*, the foot, another form of which is *anansa*, and *enɔm*, 5, is the same as the word for mouth. *Ebiɔsa*, 3, might come from *ebien*, 2, and *nsa*, the hand, to make three, and *idɔ*, 10, is probably little more than *du* "the top."

Names of persons.—Every Fanti ought to have two names, one taken from the day of the week on which he was born and the other from some personal characteristic of his own, mother's, father's, or family. The days of the week with the names for males and females are as follows:—

			MALE.	FEMALE.
Sunday	....	<i>Kwesida</i>	<i>Kwesi</i>	<i>Esi, Akosua</i> .
Monday	....	<i>Idwɛda</i>	<i>Kugo</i>	<i>Adwa</i> .
Tuesday	....	<i>Ibinada</i>	<i>Kobina</i>	<i>Abinaba, Araba</i> .
Wednesday	....	<i>Wukura</i>	<i>Kweku</i>	<i>Ekua</i> .
Thursday	....	<i>Yada</i>	<i>Kwa</i>	<i>Aba</i> .
Friday	....	<i>Ifra</i>	<i>Kofi</i>	<i>Efua</i> .
Saturday	....	<i>Miminda</i>	<i>Kwamina</i>	<i>Amba</i> .

Names such as *Kwesi Ata*, *Kwesi*, the twin; *Kuyo Auan*, *Kuyo* the fourth son; *Kofi Burɔnyi*, *Kofi* from a white man;

are very common and exemplify the ordinary method of nomenclature. But the love of parable which is strong in the Fanti leads him to give names, dedicatory as it were to some Fetish, to slaves and waifs and kidnapped children. Among slave children names signifying *the gift of God, His foot walks straight, He brought me luck, from the hand of God*, are the rule, and it would be considered of bad augury for them to change.

Names of Places.—The same love of parable is the cause of many almost inexplicable names to be encountered everywhere. During one journey I came upon two single huts, surrounded by a stout fence, but kept very clean and orderly, in the midst of the forest and four or five hours from the nearest habitation. It was called *Oampe Kūrōm'*, that is, he likes not a country, a multitude, and was the name given by the owner of the houses who had fled from his father and who here with his brother and their wives tried to "subdue the earth and his spirit." Freely translated, *Oampe Kurom* would become "The Hermitage." Local characteristics, derived from trees, vicinity of rivers, or hills, or some accident to the first settlers, account for many names. *Bessadzi*, is under the cola-nut trees, *Besē, adzi* or *dadzi*, below or the ground. *Prasu* is simply by the Pra. *Appemdu*, on the *Appem, Do-nkwaanta*, well at the cross roads. *Otochemdu* on the *Otohem*. Worth mentioning here is the name of a small plant like the Forget-me-not, with pale bluish flowers in capitella, which grows very quickly and spreads, and which is therefore called *Tutu muroko kohwe épò*, i.e., "run, I am going to see the sea."

Poetry and Folk Lore.—It is difficult to arrive, even after lengthened investigation, at any success in trying to discover the materials of poetry and folk-lore which exist among such a people, so suspicious and so vain-glorious. If poetry or verse exists, it is kept secret for Fetish purposes, and therefore not to be disclosed, and the natives are shy to an extraordinary degree in relating one of their own tales before a European, perhaps because every detail is nicely exact, and the language, "painful and free" like the language of some of the Arabian Nights. One of the tales has for subject the faithlessness of the wife of Kwēku Anansi, or Kwēku Spider, who, on his return from hunting one day, found his door barred and heard a noise inside. On forcing open the window *with his gun*,¹ Kwēku discovered his deceitful wife and her paramour. A *palaver* ensues, during which the lover manages to escape, and at the end of which Kwēku is compelled to forego any demand for

¹ The mention of the gun indicates a modern interpolation. Anansi is also a word for spider amongst West Indian negroes.

compensation *because he saw nothing*. It is very popular amongst all carriers and hammockmen, and consists of a long recitative broken by refrains, "Oh, Anansi, oh Anansi, you are being tricked, or your wife's too much for you," or some such piece of sparkling wit.

After many burials a troop of mourners following the coffin will sing a song of quite other pattern. It is lit. translated,

"Bear him along,
He is only a poor body now,
Bear him along.
Give pity to the poor body,
Bear him along."

And when a chief or a great man dies, at the custom, held in his honour, his virtues are at first chanted until the influence of rum suggests pleasanter topics. But in such songs there is neither metre, rhyme, nor even attempt at rhythm; the sole object of the minstrel seems to be to get as many words as possible into a single breath, to the accompaniment of a very monotonous air, and with the clangor of the equally monotonous tom-toms.

Daily Customs of a Fanti town.—It is, however, when the sound of these tom-toms assaults the air, that a sojourn in a native town becomes most interesting. Then, whether the custom be held for the marriage of a chief, or for the Yam Feast, or for some vague anniversary, if one walks through the town, or leans over palisades, or looks into houses, all Fanti life in its happiness and misery, labour and indolence, becomes visible; the chief, sitting on perhaps a gold-mounted hardwood stool, with massive gold ornaments on his fingers, and around his neck, and with a flowing robe of finest native material, which he lowers from his shoulder as a sign of salute and respect as you approach; the headwife attending to the cooking, generally fat and good-humoured-looking; the comely damsel, with hair brought to a point on the crown of her head, rustling in European silk or Manchester cotton, thrown loosely, yet gracefully, around her, perhaps trying to attract admiration; the young girl who has suddenly bloomed from a child into a maiden, and who now walks through the streets, attired in her best raiment, and decked with the costliest ornaments of her family, a retinue of children following; the weaver, active at his narrow loom; the mat-maker peeling the thin slices of the reed-palm, or *odobé*, to dry in the sun; the palm oil workers skimming off the impurities from the red oil, as it melts in a vast cauldron; the lively market, where under a blazing sun, plantains, bananas, yams, sweet potatoes, fish, goats, ground-nuts, and all kinds of peppers are exchanged for soaps, scents, hair-washes, pomade, salt-fish, tinned

beef, and all kinds of hardware, women, with children on their backs, crying, at the tops of their voices, as they make their bargains; the *patámpa*, or resting-shed at the entry of the town, for travellers and carriers, who may be seen there, with loads deposited from weary heads and shoulders, palm-kernel-nut bags, or palm oil in solid lumps, or rubber like an elephant's hide, whilst the weary guardians of the burdens rest for a time, and devour greedily the dried fish and kenki, which they find so palatable and supporting. It is a picture of human life, with the substratum common to all existence, and the superficial variations due to climate, country, race, and perhaps individual idiosyncrasies.

Native Marriage.—There are now no initiatory ceremonies performed in the Fanti country in the case of girls, when they become marriageable. But up to November, 1892, ceremonies were practised in the greatest secrecy amongst a people called Krobo, who inhabited a small district east of Fanti-land, and where crime was committed to such an extent, generally murder of strangers, that an expedition marched into the district and drove all the people from Krobo-hill, the seat of the ceremonies. Three Krobo Fetish priests were afterwards hanged for murder on the hill publicly, and I am inclined to think there is now an end of these practices.

During the first menstruation in Fanti-land the young girl is kept confined to her house for about a week, then given water by her mother or aunt to wash. This done, she partakes of a hearty meal, having been obliged to fast on light "pap" during most of the week. On the following day, she puts on a new *assinamadzi*, i.e., a new string of beads (which every native woman wears day and night) just above the hips around the loins, a new *amointsi*, that is a piece of cotton stuff going from the centre of the *assinamadzi* in front between the thighs to the centre of it behind, where it is tied. A new "cloth," as it is called, is given to her, i.e., a piece of cotton stuff which she winds around her hips and legs like a petticoat, a new "cover-slut," or light silk chemise, and a piece of cloth to wear as a shawl. Her hair is arranged in a most elaborate fashion, brushed up at the sides, and folded back like a fringe, covered with gold ornaments; her neck is loaded with gold chains, and her fingers covered with rings. Escorted by a troop of girls of very tender ages, like nymphs following the huntress-goddess Artemis, she walks through the town, visits the friends of her family, receives their good wishes, perhaps a present as a handsel from them, and is on view for some days following. Unfortunately, her fate is not in her own hands. Born as she is to be regarded the negro's chattel, supporter, or genitrix

of offspring, she suffers the cruel destiny of being sold regardless of affection or antipathy. But even in the negress, oppressed by the callous contempt of generations, there are feelings which demand reciprocation, and which break the bonds of convention to attain to some realisation of sympathy and affection.

The essential parts of the marriage contract are not love passages, but the payment of the purchase-money. When a man has made the possession of such a girl as that just described his heart's desire, he has, like every suitor, to abide by certain conditions and to wait. When the new woman shall have acquired power in Fanti-land, she may probably insist on the addition of a sanitary condition likely to prove inconvenient for many a lover.

1. The first condition is the payment of "Head Rum," varying from 10s. to £2, which is supplied by the "bearer," who goes alone or with the suitor to beg the girl's hand. The rum is intended to be refreshment for the future bride's family whilst the proposal is under consideration.

2. An amount, varying from 3s. to 6s. 9d., has to be paid for knocking at the door of the father of the girl, and probably marks the acceptance of the proposal, and the reception of the future husband into the girl's family.

3. A dowry must be paid to the parents or proper guardians of the girl, to compensate them for the loss of her services. The amount varies from £3 12s. to £7 4s., that is, one or two ounces of gold, to £10 or £12 in the case of an educated girl, and even £20 in the case of a mulatto.

The payment of the dowry is always regarded in native courts and in English courts now as the indispensable part of the native marriage contract, and after it, the girl, with certain reservations, becomes the property of her husband.

4. The bridegroom is obliged to make presents of cloths, Manchester stuffs, and silks to the bride, after which nothing more is to be expected of him.

On the evening of the day on which the contract has thus been made, it is usual to see a procession of servants taking the girl's boxes, clothes, pots and worldly goods from her mother's house to her husband's, and soon after to see the bride herself "led" by her mother, as it is technically termed, or by her most intimate friend, and followed by other female friends, to the husband's house, where stimulants are provided for the party. As this all takes place in the tropics, before the sun has gone below the horizon, a necessity has never been felt for hymeneal torches, and they accordingly form no picturesque part of a very materialistic programme. Centuries must pass before a native poet can sing of romantic lovers and of the

marriage night in the strain of the servid concluding stanzas of Sir John Suckling's "Ballad on a Wedding."

Divorce.—It is not surprising that under such a system there are numerous divorces, for the bond is easily severed and there is no social ostracism attaching to preferring a lover to a husband. After the woman has shown her repugnance to her husband by flight with another, or refusal to live with him, he has only to announce the fact to her family, stating that he has divorced her. He usually claims back all his head rum and dowry, which, according to native law, he is entitled to receive, not considering the length of time he may have had the use of the woman. The husband has also the power to divorce, without assigning any reason, but in a case of this kind, he has not justice on his side in demanding back the head rum and dowry.

Polygamy.—Polygamy is practised very generally, chiefs having four, five, or six wives, and farmers and small traders two wives, but the same publicity is not given to the custom now, as it has been discountenanced by the Government, much to the injury of the women, as they imagine. Every wife of a polygamist was a free woman, became a member of her husband's family, had a protector during his life, and was provided for after his death. The case is a little different now. The second wife is little better than a slave kept as a concubine, for she has to do most of the drudgery, and to cook her husband's food, or even procure it for him. This is particularly true in the case where a negro has one wife, "married in church," and the other "married in native fashion."

Children of Polygamists.—Wherever children exist, the care of them is left to the mothers exclusively, a habit which may explain the intensity of affection felt generally by Fantis for the mother, whilst the father is hardly known or disregarded. The practice of living in separate houses may also conduce to this end, as well as the fact that all over Equatorial Africa the wives never eat with their husbands, but always with the children. This custom of separate eating is not to be ascribed to Mohammedan influence, for it exists where Mohammedanism has never penetrated, and where heathenism is in full sway.

Succession to property.—Polygamy and the curious anomaly of a man's having two wives, married according to different forms, but both legal, are not without effect on succession to property. The goods of a man married according to European ceremony may be disposed of by will in any way the testator chooses, but in default of a will in such a case, the eldest son receives all. There being no son, the property goes to the daughter or daughters, and, if there are no daughters, to the

wife. But under native Fanti law, and in cases of persons married according to native ceremonies, a more ancient and peculiar code prevails.

Native System.—The rightful heir in native law is the eldest nephew, *i.e.*, the eldest sister's eldest son, who *invariably* succeeds to all the property and position of his uncle, including wives, children, slaves, if there be any, and who thus becomes liable for the debts of the deceased. In default of such an heir, the principal relatives of the deceased select one of their number to succeed, and the man so selected becomes the legal heir, just as if he had been the nephew. Occasionally another method is resorted to in order to appease differences which may arise; a division of all the property is made, generally between two, hardly ever between more than three. And it is noteworthy that the man to whom are assigned the personal effects, chattels and movable stock of the deceased, receives the wives also for his share.

Females may succeed to property, but principally when the acquisition of property by them is merely the result of succession to the stool of a chief, and *ipso facto* to the land which is attached to the stool. At the present time a queen reigns in Daboasi, the chief town of an important district on the Lower Pra, has large tracts of mahogany-bearing land under her at least nominal ownership, and exercises power through the mouth of her elders and linguist. On a visit, which I paid her nearly a year ago, in connection with disputes arising from concessions which she had given to timber speculators, I found the queen dressed rather poorly, though she is not at all in an indigent condition, and sitting outside the entrance of a small hovel, at the rear of her compound. The reason of her apparent destitution and abandonment for a time of her proper dwelling was the occurrence of the menses, during which a Fanti woman is regarded as unclean, and obliged to live apart from her husband.

Tenure of Land.—The system of land tenure is a thorny subject, and has been for some time under Government inquiry. In all the Fanti country the source of ownership of land is derived from the possession of the chief's stool, and not even the chief can alienate the land from the stool. Disputes about boundaries, rights of way, hereditary rights of occupation in regard to land have been a kind of absorbing pursuit to the litigious Fanti, and a fertile source of revenue to native lawyers, whose language and treatment of their clients are faithful copies of their prototypes in "*Les Plaideurs*." One fact is deserving of attention. In the course of this litigation, it has been more than once argued on behalf of a defendant prosecuted for trespass or sought to be restrained from cultivation, that there are two

chiefs, one to rule over the people and the other to hold authority over the land. But in consequence of the testimony of kings and native experts, it has been decided in the English Supreme Court that, according to native custom, there can be only one chief, who is at the same time possessor of the stool and holder as trustee for his tribe of the land.

When land becomes built upon, it is regarded as the personal property of the owner of the house on his making a small present to the chief, generally rum or gin. But arable, mining, forest and what may be called waste lands near the settlements of a tribe are all considered as in the chief's hands, and by him portioned out to the several families, who sub-divide plots and make their own boundaries. All are under obligation to contribute something, usually very vaguely defined, either in money, gold dust, kind, or flasks of rum as recognition of chieftaincy, to the chief, who has also the right to call for special contributions in case of a journey, a death, or to defray legal expenses.

Nothing is more commonly visible in the bush, or on the sea-coast now, as in the days of Hanno, the Carthaginian traveller, who first remarked them, than clouds of smoke, the indications of the forest fires that prepare the ground for cultivation. The Fanti farmer, except in very settled districts, where owing to the British protectorate and consequent progress and peace, population begins to increase, is not a "permanent" cultivator. Three or at most five years will cover the period during which land is continuously cultivated, or the soil broken with the hoe. A period usually reckoned at fifteen years is supposed to elapse before the bush, which soon covers the fallow land, is destroyed in fire, and gives place anew to industry.

When the crackling of the bush-fires no longer startle the ear, nor wreaths of smoke meet the eye, and when the native has finished his light turning of the soil with his hoe, and scattered the seed, pruned his plantain groves and trimmed his palm trees, the early rains are at hand and soon burst over the torrid soil. After a few weeks' rain, the dark green of the bush assumes a brighter hue, plantations of corn, and cassada, and ground-nuts spring up as if by magic, the plantains shake their opening bunches in the breeze, and the palm nuts begin to appear. But during this period the husbandman does little but consume the store of the previous season.

Crops.—It is difficult to determine what crops or fruits are indigenous to Fanti-land, for some bear names obviously derived from the Portuguese, and, as mentioned before, the word for *corn* is connected with the root in the word for white man. A short list may be given here, commencing with words peculiarly native.

Oil palm-tree,	= <i>Abédwá.</i>
Yam,	= <i>Odù.</i>
Ground nuts,	= <i>Nkatsi</i> or <i>atsi.</i>
Coco-nut tree,	= <i>Kabè.</i>
Lime-tree,	= <i>Ankand.</i>
Kola-tree,	= <i>Bèè.</i>
Corn,	= <i>Burobá.</i>
Cassida or cassava,	= <i>Bankyè.</i>
Banana,	= <i>Mpuá.</i>
Plantain,	= <i>Obārédzi</i> or <i>abārédzi.</i>
Pappaw,	= <i>Buréfír</i> , or <i>bārésòw.</i>
Pine-apple,	= <i>Aburóbà.</i>
Coco-yam,	= <i>Koko.</i> (Portuguese.)
Mango,	= <i>Mangu.</i> (Port.)
Guava,	= <i>Oguaba.</i> (Port.)
Sweet-sop or Sour- sop, or Custard- Apple,	= <i>Apír.</i>
Tiger-nuts,	= <i>Átadwe.</i>

The native food is neither *recherché*, nor varied for the seasons of the year. The common dish is what is known as *palm oil chop* and *fufú*, the former being a bowl of palm oil, produced by boiling freshly ground palm nuts, a liquid in which a fowl or fish is cooked and which is highly seasoned with native pepper. The *fufú*—the name simply meaning *white*—is a mass of boiled yams or plantains pounded into a pasty consistency and generally found very filling. Ground-nut soup is substituted for the palm oil chop, both of which are taken by Europeans, but the former of which when well prepared, is appetizing and delicious. Kenki has been spoken of before, as pounded corn, and corn is also used, washed and mixed with hot water as a drink in the early morning. There are two principal meals in the day, at noon and after sunset, and this habit appears universal over Western Africa.

As a European walks through a Fanti town, his nostrils may be suddenly assailed by a smell of the most penetrating and intolerable nature; it is the smell of a flavouring article, dear to the Fanti, *stink-fish*. By this name is known the shark, cut up in sections, and partially sun-dried, and generally in a condition of revolting putrefaction. Natives have often declared that, as they say, "it tastes too sweet, it passes everything in sweetness," but I cannot speak from experience. In a part of Fanti-land where I lived for seven months, and where stink-fish abounded, and was a great article of commerce, and where also skin diseases and elephantiasis Arabum, or false-leprosy flourished to an appalling extent, I came to the conclusion that the handling and consumption of the putrefying shark contributed vastly to produce the foul and deforming diseases everywhere visible.

As the Fantis are daring and expert fishermen on the sea, they are skilful canoe-builders in the interior, make very good

mats, weave very good native cloths (*kente* F.), and are moderately industrious farmers. In the latter occupation the women do most of the work, particularly in washing and pounding the palm nuts and kernels to render them fit for the market. Pottery of a simple kind is also paid attention to, but the most honourable occupation is that of goldsmith, which is likewise hereditary. One cannot refrain from surprise and admiration at the delicacy of filigree workmanship of which the Fanti is capable with the crudest of instruments. There are few native designs, the principal one being a snake's head and coil, for the zodiac design on rings and chains, now so common, is derived from the Mohammedans.

Beliefs and superstitions.—But whether in the Fantis' occupations or artistic designs or imitations it is difficult to penetrate the veil which hangs over the superstitions and beliefs connected with them. Now that missionaries have invaded the domain of Fetishism, suspicion and vague fear of Government or of ridicule, to which Fantis are very sensitive, take away all success from an inquirer. About the nature of the soul little is believed or thought, and so the Fanti looks calmly and indifferently to a future life, in which he has no fixed belief, but which displays for him no dismal outlook as a place of punishment. Food is often set at the grave of the recently deceased, a pitcher of water, a chair for a chief, and a special Fetish emblem for a Fetish priest, so that functions similar to those of the present life may be performed beyond the tomb. In travelling through the bush, one is certain to remark outside many towns and villages, a chief's tomb, covered with a shed, with dead fowls, fresh eggs and water by its side, and a chair on top of the mound. And in the fields one may notice, at boundary lines, slain fowls, bottles from which gin or rum had been poured into the soil, small wickerwork erections, enclosing a few bananas eggs, or flask of gin, all to propitiate the Fetish of the region.

Human vampire.—That even natives who have been educated are still possessed by a belief in Fetishism, the following story of a human vampire will show. Whilst I was halting at a small town, a native official brought me his child, which he said had been healthy up to a short time before, but from which all health had departed in a single night. The child was indeed suffering from the extremity of marasmus. He further informed me that he discovered through a boy who was learning, as he said, to be a wizard, that a certain woman who had lately left the town, had by magic sucked away all the healthy blood of the young child in order to obtain fresh strength for her journey. So imbued with belief in this explanation of his child's illness was the official that he sent a special message to the

woman to restore his child's blood or that he would bring her before a chief's court for the offence of stealing it. It was impossible to discover anything from the youth who first propagated the story.

Spirits.—As every Fanti has his own Fetish or familiar spirit, so is he considered to some extent in the power of this Fetish. This spirit is of a neutral character, beneficent if appeased, and mischievous if unpropitiated, but on the whole more inclined to be of an evil disposition. The native swears by him in the court of justice, holding up the hand, invoking his name, and simply promising "*Kasa nukwear*"—to tell the truth—at times tasting a little *moco*, or pounded native pepper, and drinking water or sprinkling it on the ground. A very common Fetish among Fantis is the Būsūm Pra, or Fetish Pra, that is the river, as mentioned in the beginning, but names of ancestors are commonly taken as Fetish, of celebrated Fetish-groves, as Denté in Kráchei on the Volta. The word for Fetish is *būsūm*, from *obū*, stone, and *sūm*, to serve (or *sūm*, dark), which is also the word for Moon, *būsum*, with a change of accent, and a Fetish-priest is *o-būsūm-kwā*, i.e., slave or servant of the Fetish. The word is therefore connected with an external object such as a stick, bone, or stone; and at a town sunk in Fetish, called Chama, quite near the fort in which I lived, at the mouth of the Pra, there is a small Fetish temple, circular and conical, built of wood and straw, in which three Fetish-stones, black, smooth, and round, were kept. Before these an invocation was frequently made when fishermen were setting out to sea to secure a prosperous catch. In cases of epidemics, such as small-pox, which up to lately raged through Fanti-land, outside every town, across the road leaving but a small path at the sides, was erected a horizontal pole on two uprights, and the space on the ground between littered with eggs, plantains, yams, dead fowls, as offerings to the Fetish to ward off the disease. On one occasion, during a tremendous thunderstorm, I took refuge in a small hovel with a streamer floating from the top, which was filled inside with a mixture of disembowelled sheep, goats, and poultry. A Fetish priest soon appeared, who informed me this was the house he used for foretelling and giving advice by examination of entrails, and before I left a couple of women with sick children had come to him, and gone away comforted by the hopeful words he spoke.

Magic.—A common and widespread belief exists in the power of witchcraft, and, as in England three centuries ago, this power is considered to reside in old women or deformed men, or children specially indoctrinated by such persons. A peculiar facility for making fire when and where he likes is a distin-

guishing characteristic of a wizard, and intelligent English-speaking Fantis have assured me that their own eyes beheld unmistakable proofs of this magic in action. One night, a year ago, I went with a fire-making sorcerer into a plantain grove to witness an exhibition of this power, but as I refused to go farther away than twenty yards from him, whence everything was plainly visible, the entertainment was a "fizzle," and nothing burned.

Power of taking away strength.—Far more serious, however, is the belief that Fetish priests, witches, and sorcerers, have the power of inflicting bodily harm on their enemies or on others for lucre, by burying objects in the ground to be trodden on or hanging them over the pathway, making at the same time an invocation. Such a case coming from a wild part of the "bush" between Takwa and Dixcove formed the subject of an investigation. To relate it shortly, a certain Kwamina Donko was at enmity with two friends named Kújo Atta and Kwéku Dyén, and to take revenge on them applied to a Fetish priest named Kōfi Pākā, to inflict some injury on the two friends. At the inquiry Kōfi Pākā, the Fetish priest, who apparently did not know that his conduct had brought him within the arm of the Criminal Code on the Gold Coast, made a very free confession of his part of the matter, and seemed desirous to impress the natives with a consciousness of his skill. He, on payment of 28s., a present of rum and fowls, went with Kwamina Donko to a path near the town where Kújo Atta and Kwéku Dyén lived, dug a hole in the pathway and laid therein a large red crab, with cowries tied to it, and sprinkled rum over it. The invocation he made, which he repeated at the inquiry, was "O crab-Fetish, when Kújo Atta and Kwéku Dyén walk over you, may you take life from them," that is to say, power, strength, health, or vitality. As soon as this became known, Kújo Atta and Kwéku Dyén dug up the crab-Fetish, and in their anger nearly took the life out of Kwamina Donko and some of his friends. In their defence, the crab-Fetish was produced in court as quite sufficient provocation for any assault. It is remarkable that no violence was offered to the Fetish priest, and he came as willingly to give evidence to prove the malice of Kwamina Donko as he went to gratify that malice by "making Fetish" against the others.

Love-charms.—Love-charms are still very much employed, and are generally composed of the juice of limes, a woman's bead, native aphrodisiacs, and a woman's special small sponge, which is worn like a pessary. These are all rubbed up together and afterwards smeared over the hands. If the youth with hands so smeared meets the maiden, or *vice versa*, the effect is supposed to be equally satisfactory.

Purification.—After many customs, particularly on the part of the women, a purification is performed, generally with water alone, or with water and limes. A most astounding instance of this kind I witnessed not far from Chama on the very sea-coast. A young native who had been seriously ill for a lengthened period, and who had even been under my care at irregular intervals, died suddenly, not without a suspicion of poison in my mind. As I walked along the beach the same evening with a negro, a native of Accra, of a totally different country, language, and traditions, we came unexpectedly upon a funeral party about twenty yards from the beach. I could see distinctly that the dead body was taken out of the coffin, had some rum poured into its mouth, was handled by many of the women, and then put back into the coffin. It was quickly let down into a grave—this was some distance away from the town cemetery—and speedily covered up. All the boards on which the coffin was carried and all the rum-bottles were broken; and with a shout all the women and men raced for the sea, threw themselves into it, rolled in the waters, rubbed themselves, and returned naked to a spot where I could observe clean clothes had been left. The others were left in the water or on the sea shore. My native companion gave me to understand such a scene had never passed before his eyes, though he had seen many native funerals.

Observance of Fetish.—One may often meet women, known to be well off, or of good families, poorly clad, half-naked, with black daubs on the face and chest, who will answer the question as to what is the matter by saying, "I am doing my Fetish." This consists of the observance of a fast for a few days in the year, abstinence from sexual intercourse, or indeed from work, frequent invocation of the Fetish or familiar spirit, and a great bath at the end, putting on of clean or new garments and a hearty meal. Fetish in fact enters into every important act of a heathen Fanti's life, though it is often difficult to discover the connection between the one and the other. At Elmina the Fetish is named Entrã, which is a corruption of St. Anthony, the patron saint of the place in the time of the Portuguese. And it is said that when the Dutch captured Elmina in 1637, the natives broke into the church and took away the brass cross, which is still said to be preserved. The truth of that I have not been able to discover. The women also at Elmina in an old district are known as Santa Maria, and when one of these dies, she is surrounded by lighted candles, as at a Roman Catholic funeral, though nearly all, if not all, of these women are heathens.

In addition to all this, there is a belief in a Beneficent

Being, a Creator to whom, however, but little homage is offered by souls imprisoned in symbolism, which has lost its meaning. God is *Nyami*, from *Nya*, to get, to make, or *Nyánkápón*, probably from *Nyánkám*, rain, and *pon*, great, and according to Fanti notions, takes the same interest in their actions that "the happy gods" did in the affairs of men according to Epicurus. As distinct from a malign Fetish, the existence of a personal Devil, who is called *Abóusam*, the evil-worker, is generally credited, but, though conceived as a spirit in human shape, is a vague and ill-defined personage, inactive on earth and usually resident in hell, known as *abóusam-Kuróm'*, the Devil's Country. Innocuous beliefs and interesting superstitions such as these mentioned above are likely to persist in spite of the spread of education, and form, in the fatal climate of West Africa, obstacles to progress not so difficult to surmount as the fever-bringing dews of the forest and plague-bearing mists of the swamps.

Notes on AUSTRALIAN SHIELDS, more particularly the DRUMMUNG.
By R. ETHERIDGE, JUN. (Curator of the Australian Museum, Sydney).

[WITH PLATES VI-VII.]

AN excellent series of figures of the *Drummung* shield will be found in the late Mr. R. B. Smyth's "*Aborigines of Victoria*,"¹ exhibiting a variety of incised sculpture and ornament. In the following notes I purpose describing three shields of this type, differing from any figured by Mr. Smyth. The acutely roof-shaped shield, known in Western Victoria under this name, is used, like the *Mulga* shield, to ward off blows in close combat, and is, so far as I know, an essentially south country weapon of defence. The front of the *Drummung* is sharply angular, the back sub-angular, and it is quadrangular in section. The centre of both the front and back is convex, becoming either straight top and bottom, or slightly concave along the front, and sometimes along the back also, attenuating towards both ends, and, therefore, not unlike a string bow. The hand-hole is excavated out of the hinder faces by counter-sinking. It is usually, although not always, ornamented only on the two angular halves of the front.

On the Murray River, towards its source, and in other parts of New South Wales, this shield is known as the *Tawarang*.

For the loan of the *Drummung* represented by Fig. 1, I am

¹ "*Aborigines of Victoria*," 1878, I, p. 331, f. 126-129.

indebted to Mr. N. Hardy, of the "Sydney Mail." In form and style of ornament it is generally similar to the beautiful types figured by Smyth. The angular front is similarly curved, and the apices of the shield are unsculptured, but unlike any of the illustrations referred to, similar spaces are left on the angular halves of the front, opposite, and of equal length, to the hand-hole, but narrowing to the sharp front edge. The remainder of the front surface on each side is incised in a series of small rhombs within rhombs, and triangles within triangles. One of Smyth's figures¹ has a similar, although larger style of ornamentation, but instead of the unincised space opposite the hand-hole, carries a simple incised bar. The front angular edge is sharp, the hinder edge rounded off.

The length of this weapon is 2 feet 7 inches; the breadth, $4\frac{1}{4}$ inches; the thickness through the weapon, $1\frac{1}{4}$ inches; and the weight, 1 pound 14 ounces. The precise locality is unknown.

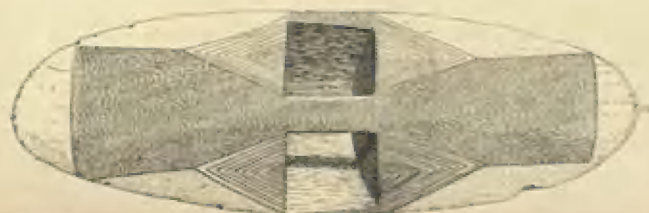
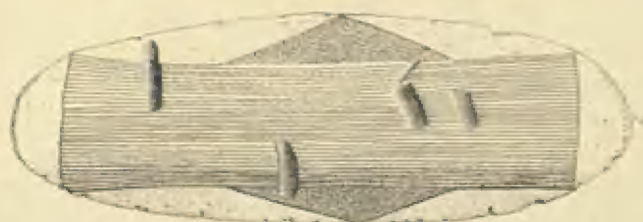
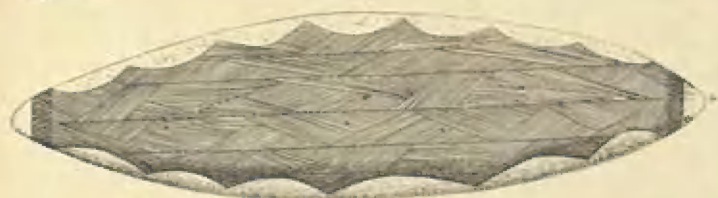
An opportunity is now afforded of showing the extension of the *Drummung*, or rather a modification of it, into East-central New South Wales, through the courtesy of Messrs. Angus and Robertson, publishers, of this city, who have permitted me to make use of the original of Fig. 2, once a portion of the warlike outfit of "King Billy," of Wellington, a well known aborigine in former days.

As I have previously pointed out, the true *Drummung* of Western Victoria is decidedly quadrangular in section, roof-shaped front and back, and with prominent lateral angles. The curvature and position of the hand-hole of the present shield (Fig. 2), accords with the *Drummung* type, but the sides are quite flat, and the section would be in consequence simply a long oval. The front edge is also truncated, but the hinder is still rounded. In the incised sculpture we again see a marked departure from that of the before-mentioned type, in that the incised lines are not confined to the front faces, but extend also on to the back, and in consequence of the want of angularity along the sides of the shield, the ornamentation should be more properly described as lateral. The incised lines form four detached hour-glass shaped figures, line within line, two above, and two below the hand-hole on each face; conjoin the respective halves on the two faces, and eight roughly rhomboidal figures would result. The apices and interspaces are smooth.

Although I have included this shield under the *Drummung* type, the departure it exhibits from the latter in several important particulars, almost induces me to consider it distinct, but the form, apart from the lateral angulation, is so manifestly that

¹ "Aborigines of Victoria," 1878, I, p. 331, f. 127.





of the weapon in question, that it will be perhaps better to retain it under this name.

The shield is 2 feet 10 inches long; $4\frac{1}{2}$ inches across in the widest part; $1\frac{1}{2}$ inches in thickness; and weighs 1 pound 10 ounces.

The third *Drumung* (Fig. 3) is again from the collection of Mr. N. Hardy, and is another peculiar and marked departure from the ordinary type, although exhibiting the correct outline and curvature. In the first place it is heptagonal in section, instead of quadrangular, and secondly, the arched front, instead of being simply roof-shaped, is truncated, producing a narrow face that is slightly concave transversely; thus the front of the shield possesses three faces instead of two. The back is divided on each side longitudinally by a ridge, so producing two faces in the place of one. All the faces are slightly concave transversely. The only incised portions are the two anterior corresponding front-faces, which are engraved with a series of zigzag lines, the various turns of the zigzag being of equal length, thus breaking up these faces into a number of squares, when viewed by oblique light, the illusion being augmented by the peculiar under-cutting of the grooves; these have at some previous period been infilled with pipe-clay. The hand-hole is made in the usual way.

The length from apex to apex is 2 feet $4\frac{1}{2}$ inches; greatest width, $3\frac{1}{2}$ inches; thickness, 2 inches; and the weight, 1 pound 9 ounces.

Mr. Hardy informs me that this shield originally came from Victoria. There can be very little doubt that it is either Victorian, or from the southern part of New South Wales.

I now pass on to shields of an entirely different type.

The first (Plate VI, Figs. 4 and 5), for which I am again indebted to Mr. Hardy, seems to be intermediate between the *Mulga* and *Geeam* shields. It is elliptical in shape, obtusely pointed at each end, very gently convex both back and front, the degree of convexity being about equal, and the lateral edges sharp. The margins both back and front have the surface layer of wood removed, leaving semi-oval spaces, forming a continuous scallop. On the front there are six of these on one side, and seven on the other, and on the back six on each side. These spaces, together with the immediate apices on the two aspects are whitened with pipe-clay. The front of the shield is divided into six longitudinal zones by incised lines, so arranged that the middle line of the shield is occupied by one of the dividing lines. These zones are cut up into triangles with their apices alternately to the right and left, and are infilled with diagonal incisions very regularly cut. The entire surface is blackened

apparently by charring, but a band of ruddle has been added at each end, just within the whitened apices.

The back of the shield is differently ornamented. A broad longitudinal space extends from apex to apex, interrupted by the hand-hole, and is unsculptured. The incised lines bounding this space are not parallel, but converge from each end towards the centre. These broad spaces are flanked on each side by narrower zones incised in a similar manner to those of the front.

The hand-hole is very wide and affords ample protection to the hand. The margins have portions of the outer woody layer removed, leaving two squares, and three oblong spaces on each side. Both the former and the general surface of the back are blackened in a similar manner to the front of the shield, whilst the letters are whitened like the scalloped edges of the shield in general.

The length is 2 feet; breadth, 7 inches; thickness, 3 inches; and the weight, 2 pounds 2 ounces.

I am unacquainted with the name of this shield, and it does not appear to correspond with any of the commoner types, although the dual ornamentation especially, and the outline to some extent, seem to ally it to the *Goolmarry* shield of Queensland.

Mr. Hardy informs me that this weapon was obtained at Cooktown, North East Queensland.

The next shield (Fig. 6) is one of the most perfect and beautiful examples that has come under my notice. The front is convex, with the middle longitudinal line as a flat smooth space. The surface is broken up on either side into eight oblong figures, and separated from one another by seven similar cross-bars, defined by closely fluctuating incised lines on three sides. These oblong spaces vary from 3 to 4½ inches in longitudinal measurement, and are filled with herring-bone sculpture, of which the incisions are deep, somewhat undercut, and has been filled level with the general surface with pipe-clay. On the back, the shield towards the apices is flat, gradually rising in the central line of the handle, to a ridge, from which the sides slope off rather concavely to the edges. The handle projects, and has been formed by removing the surrounding wood. The back of the shield is quite plain and unsculptured.

The length is 3 feet 10 inches; width, 5 inches; thickness, 2 inches; and weight, 2 pounds 8 ounces.

The shape of this shield is strictly in accord with the ordinary form of Western Australia termed the *Woonda*,¹ and the method of forming the handle is practically the same. The ordinary *Woonda*, however, of which I have seen several, is fluted from

¹ Smyth, "Aborigines of Victoria," 1878, I, p. 330, f. 148.

top to bottom, parallel to the lateral margins, with a deflection in the centre, and is destitute of the elaborate carving of the present shield. It might at first sight be taken for a *Mulga*, but the method of forming the handle is that of the *Woonda*, and not of the former.

Mr. Hardy, to whom it belongs, received this shield from Port Darwin, but I have little doubt of its West Australian origin. Angus¹ also gives an illustration of a similarly made and shaped shield, this, however, is painted not incised. It also is from West Australia.

In the "Proceedings of the Linnean Society of N.S. Wales," I lately figured² several varieties of the Queensland *Goolmarry* shield. Thanks to Mr. Hardy's ardour in collecting, I am now able to describe an eighth form of this interesting weapon. (Figs. 7 and 8.)

It is convex both back and front. The latter has the outer woody layer at the apices removed as usual, and in addition form two triangular spaces on each side. The central portion of the front, in the form of a parallelogram, is distinguished by being vertically incised, with a triangular space or wing on each side, devoid of ornament. The parallelogram shows traces of having been coloured with ruddle. On the back, which is about equally convex with the front, there are similar triangular spaces at the sides and apical spaces from which the outer woody layer has been removed. Above and below the hand-hole, counter-sunk in the usual way, are four pyramidal figures, two and two, and base to base, ornamented with incised lines parallel to the longer margins, thus leaving at both ends of the shield a more or less wedge-shaped and unornamented space. The pyramidal figures were at one time coloured red.

The length is 1 foot 9½ inches; breadth, 7½ inches; thickness, 3 inches; and weight, 2 pounds.

The present shield is of the typical *Goolmarry* form, incised both back and front, and is so in a manner I have not seen before. The bare apices are universal in the *Goolmarry*, whilst the distribution of the sculptured and plain surfaces is very varied throughout the type.

The hard usage this weapon has undergone is evinced by its notched edges and the old spear-marks on the front.

The last weapon of defence but one I have to refer to (Figs. 9 and 10) is one of the large light fig-wood shields of Central Queensland, for which I am indebted to Mr. Harry Stockdale, of Sydney. Very little has been published regarding these lopsided shields, and I am not even acquainted with any of the

¹ "South Australia Illustrated," 1846, t. 471, f. 10 and 11.

² 1895, vol. ix (2), p. 506, t. 33-38.

native names. Smyth figures¹ one from Rockingham Bay, and remarks that it "differs altogether from the shields in use in other parts of the continent."

The present example, like that given in Smyth's figure, forms an irregular oval, but is even more symmetrical than the generality of this type. There is no incised work on either back or front, and the ornamentation is confined to the latter, and consists of a nearly bilaterally symmetrical pattern in red, black and yellow colours. The yellow is used to define the pattern, the black as an edging to it, whilst the red is used to fill in certain angles, besides tinting the boss that forms the central point of the shield, rising above its surface. It is exceedingly difficult to give an intelligible description of the pattern. It will be observed that at each extremity of the shield is a W-like figure, having two of the angles in each case filled with red colour, and projecting from these, what, to use cartographer's symbol phrase, may be termed "swallows." The general face of the shield is then occupied by a figure that, when viewed transversely, may be likened in shape to a stunted sand hour-glass, with the top and bottom surmounted by a cap-piece, whilst the interiors of the two ends of the hour-glass contain each a T-piece, the two together giving a sectional figure not unlike that of a locomotive rail. The interiors of the cap-pieces are filled with red colour. The re-entering angles of the hour-glass are occupied, top and bottom, by two "swallows," one single, the other double.

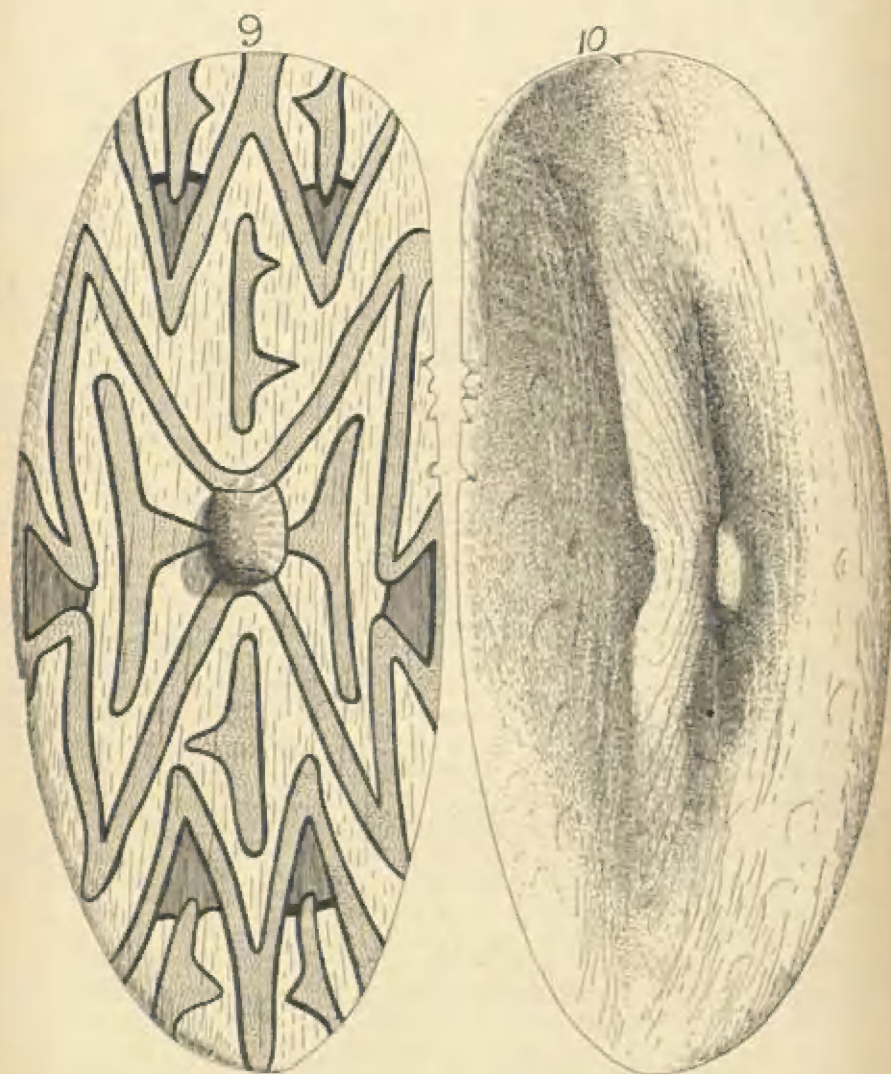
The back of the shield is slightly concave with a projecting handle, formed by cutting away the wood

The length is 3 feet 2 inches; the breadth, 1 foot 4 inches, the thickness, exclusive of the boss and handle, $1\frac{1}{2}$ inches; and the weight 5 pounds 3 ounces. These peculiar shields are comparatively light, and, according to Smyth, are made of the soft wood from the buttress roots of a *ficus*. The pattern painted on them is very varied, that figured by Smyth² being of an entirely different character to the present shield. It consists of a series of ovals within one another, concentric with the margins of the weapon, with a re-entering angle top and bottom, and surrounding a peculiar and nearly bilaterally symmetrical figure in the centre. The only other figures of this type, with which I am acquainted, are given by Lumholtz.³ His plates show how these shields are used in the *mêlée*, and he also corroborates Smyth's statement of the nature of the wood. Lumholtz makes the following remarks:—"When the native holds this shield in his left hand before him, the greater

¹ "Aborigines of Victoria," 1878, I, p. 334.

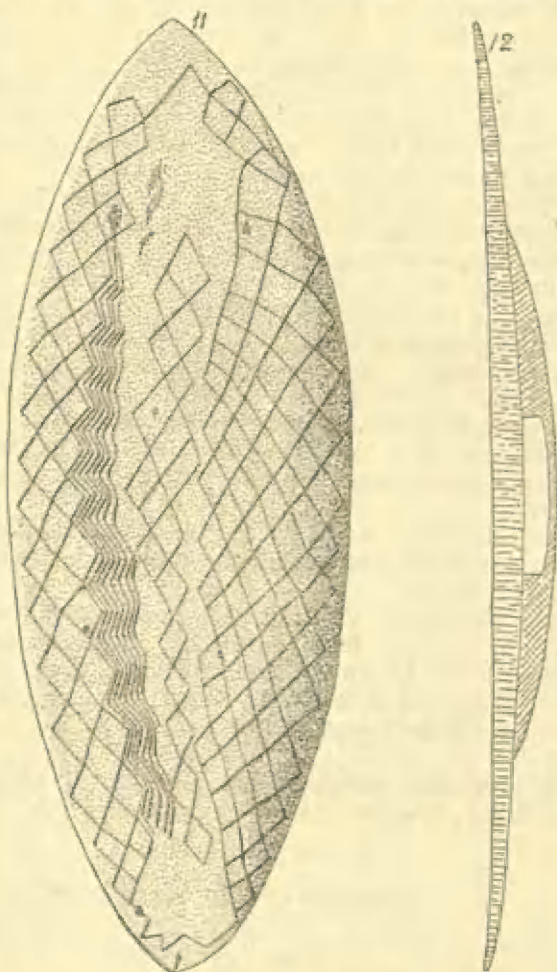
² "Aborigines of Victoria," 1878, I.

³ "Among Cannibals," 1890, pp. 130, 123, pl. opp. p. 122, pl. opp. p. 124.



QUEENSLAND SHIELD.

part of his body is protected. The front is painted in a grotesque and effective manner with red, white and yellow earth colours, and is divided into fields, which, wonderfully enough, differ in each man's shield, and thus constitute his coat of arms." The patterns depicted on the shields figured



by Lumholtz are very curious, but different from the present example. His were obtained on the Herbert River, Central Queensland. The present example is evidently from the central area of the latter colony.

The last shield (Figs. 11 and 12) is peculiar, and, so far as

my knowledge enables me to judge, of a rare type. It is a small oval weapon made of *Banksia* wood, obtusely pointed at the apices. On the outer face it is convex transversely, and slightly concave longitudinally, i.e., the apices are on a slightly different plane to the centre of the shield. The wood is also thicker at one end than the other. The handle is not made by countersinking, but by cutting away the wood over the whole inner surface, leaving the handle in relief, in a similar manner to the subject of Fig. 10. The outer face is very roughly incised, and the ornament is not similar on both sides. The central longitudinal line is occupied by a double series of rhomboidal figures, tailing off into a single row below. On the right, and separated from the central series of figures by a narrow intervening clear space are many rows of similar rhomboidal figures, the rows lessening in number top and bottom. On the extreme left are three other rows, connected with the more numerous on the right by zig-zag simple lines. Between the left-hand group and those in the central line of the shield are seven continuous herring-bone incisions of equal length, as a whole figure. At the apices, but within the sculptured surface, are clear, unincised, irregular spaces. No colour appears to have been used in the ornamentation of this weapon. As might be anticipated from the nature of the wood, it is heavy for its size.

The length is 1 foot 8 inches; the breadth, 8 inches; thickness, exclusive of the handle, is $\frac{3}{4}$ of an inch; and the weight is 2 pounds 2 ounces.

I am not acquainted with the native name of this weapon, nor with any previous reference to it. The specimen was obtained from the blacks at Clermont Station, Queensland, by Mr. Henry King, and is now in the possession of Mr. N. Hardy, to whom I am under obligations for the loan of this and other weapons.

As on previous occasions I am indebted to Mr. Charles Hedley, F.L.S., for the illustrations accompanying these remarks.

Description of the Figures.

- Fig. 1.—*Drumung*.—Side view; probably from Victoria. Angular along the sides and quadrangular in section.
 Fig. 2.—*Drumung*.—Side view; Wellington, N.S. Wales. Flat along the sides, and oval in section.
 Fig. 3.—*Drumung*.—Side view; probably from Victoria. In this view, one of the front incised faces, and one of the side and back faces, are seen.
 Fig. 4.—Shield intermediate between the *Mulga* and *Geeam*. Front view.
 Fig. 5.—Back view of Fig. 4.

- 1-3. MAO NAGA MEN.
4. NAGA WOMEN.



Fig. 6.—*Woonda*.—Front view; probably from West Australia.

Fig. 7.—*Goolmarry*.—Front view, showing contusions from blows.

Fig. 8.—Back view of Fig. 7.

Fig. 9.—Large oval shield from Central Queensland. Front view, painted, and with a central boss.

Fig. 10.—Back view of Fig. 9.

Fig. 11.—Small oval shield with pointed apices made of *Banksia* wood. Front view.

Fig. 12.—Side view of Fig. 11, exhibiting the method of leaving the handle in relief.

NÁGÁ and OTHER FRONTIER TRIBES of NORTH-EAST INDIA.

By GERTRUDE M. GODDEN.

[WITH PLATE VIII.]

I.

NÁGÁ TRIBES.

(i.)

Introductory.

(ii.)

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(iii.)

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(i.)

Introductory.

THE wild hill tracts which till recent years formed the North-Eastern frontier of the Indian Empire are still to some extent an almost unknown land. A dividing barrier between the plains of Assam on the one hand, and of Upper Burma on the other, these Nága Hills were long known as the abode of fierce and intractable tribes, living in a state of incessant intertribal warfare, and asserting their presence on our border by savage

raids; but punitive expeditions and official intercourse left us with a very incomplete knowledge of the people. Fearless with the courage of savage ignorance, they repeatedly resisted and killed officers engaged in frontier work, and entrenched in a remote hill country they eluded detailed scientific observation. A further difficulty lay in the multiplicity of languages spoken among them. Later years have seen the Nágá tribes reduced to peace and order, but as far as I am aware no adequate record, either of the hostile tribes, or of the more peaceful members of the race, has as yet been attempted. The following pages therefore make no claim to completeness, but are rather notes of the people, chiefly gathered from some Government records, and from a few scattered scientific papers.

Before proceeding to deal in detail with Nágá life we may briefly notice some past conditions of the tribes, their position in regard to external influences, their racial affinities, and their language.

We find a record of the hostility of the tribes as far back as 1832, when English officers at the head of some native levies fought their way through the Angámi and Kutcha Nágás. At this time and for many subsequent years the Nágás made themselves known to us as barbarous savages; the savage virtues of blood-feud and relentless raiding, and savage ignorance of many of the first principles of the higher civilisation were everywhere apparent. For the ten years following 1838, they raided our border, engaged in mutual extermination, and defied our efforts to manage them, alike by official tours or punitive expeditions. For the next ten years the Government withdrew from all interference with the tribes, but this experiment ended in raids which enforced definite action. A strong central station was established; conciliatory intercourse with the Nágás was enjoined; and our knowledge of the tribes was greatly extended. Further movements followed towards civilising the country, carried on with much tribal opposition, and at the cost of one valuable life, that of Captain Butler, Deputy Commissioner of the Hills; reference to Captain Butler's ethnological and other researches will be found in a previous volume of this Journal.¹ This was a time of vigorous exhibition of the Nágá character; in the two years, from 1874 to 1876, the raids of one tribe alone, that of the Angámi Nágás, resulted in the death of over 300 persons. Further measures of control were now decided upon, and happily for the tribes they fell at this critical period under the management of Mr. G. H. Damant, an officer singularly qualified

¹ R. W. Woodthorpe, "Journal Anthropological Institute," vol. xi, 1882, p. 57 *seq*; Col. Woodthorpe refers to a paper by Captain Butler, on the "Angámi Nágás," published in the "Asiatic Society of Bengal," part 1, 1875.

to promote their civilisation. Mr. Damant brought to his post not only administrative vigour, but also a scientific study of the people; and the success of his brief eighteen months of office may doubtless be attributed to this union of the temper of the student with the indefatigable energy of the active magistrate. The task before him was to begin the welding of "a mass of disconnected and barbarous tribes into a law-abiding community,"¹ and though we may not concern ourselves here with his political success, his letters and reports show us something of Nágá savagery as it existed twenty years ago. References to his anthropological and philological work will be found in the following pages. He wrote that the people did not seem to have the slightest idea of the value of life, and after he had effected the difficult task of removing his headquarters to the advanced post of Kohima, he anticipated having to live in a stockade for two years, and found it hardly safe to go out without a guard. At the reduction of a rebellious village, against which an expedition was necessary, the Nágás came round the camp in full war dress, challenging the party to come and fight them. Another village informed Mr. Damant that they intended to sew up his mouth and eyes if he went there. Yet within a few months of the advance to Kohima at least a temporary improvement was apparent, an improvement wisely received by Mr. Damant, with caution: "I fear," he writes, "the love of fighting is too deeply implanted in a Nágá's nature to be exterminated so quickly."² After twelve months of administration, considerable advances towards civilisation could be reported. In endeavouring to understand the Nágá tribes we may recall that Mr. Damant never doubted their capacity for ultimate peace and order. This hope is constantly repeated by him, and his Administration Report concludes by sketching a future advance, "step by step until we have succeeded in eradicating the last vestiges of the murder and bloodshed which now prevails among all these tribes."³ The work which Mr. Damant foresaw so clearly, and the success which he anticipated, were to be achieved by other hands. A few months after writing the above he was shot down at the entrance of a village near Kohima. In his untimely death the frontier tribes lost a wise and skilful administrator, and a scientific career full of promise was cut short. The defence of Kohima against an overwhelming force of Nágás followed, and the Nágá war of 1878-9, a war not concluded until 1880.

¹ See the resolution by Sir Stuart Bayley on Mr. Damant's "Report of the Administration of the Nágá Hills for the Year 1878-9."

² "Official Report," G. H. Damant, 1879.

³ "Administration Report of the Nágá Hills," 1878-9. G. H. Damant.

From that date the tribes appear to have abandoned the idea of expelling English rule, and in 1892 it was possible to record the fulfilment of hopes expressed by Mr. Damant twenty years earlier. Since the close of 1881, Mr. Aitcheson writes, "the history of the district shows the progressive establishment of peace and good order, and the quiet submission of the Nágás to our rule."¹

We need not dwell further on the warlike qualities of the Nágá race; but it should be noted that even in the earlier years the tribes were not exclusively hostile. For nearly ten years, from 1876 to 1884, the Sibsagar Nágá tribes gave no direct trouble, trade largely developed, and missionary work appeared to have been efficacious. The Rengma Nágás have had almost uniformly peaceful dealings with the Government.

This long political intercourse with the tribes has been supplemented to some extent by missionary labour. Thus in 1840 a missionary was residing among the Sibsagar Nágás, and a successful mission school existed, to which many of the chiefs sent their sons for instruction. By 1878, the New Testament had been translated into Manipúrí; and in the late census report for 1891 we find mention of two Nágá mission stations. Further opportunities of receiving external influence were afforded to the Nágás by their trading activity. This activity brought them as far as Calcutta; and many of the Southern and Northern Nágás traded constantly with the plains, and worked in the winter months in the tea gardens at the foot of the hills. The intercourse between the Nágá tribes bordering on Assam and the Assamese has been constant, and a certain amount of Hindu, Buddhist, and Mussulman influence may thus have penetrated into the hills.

The Nágás have thus been long exposed to foreign influence. They have been in contact with Christianity, Hinduism, and to some extent with Buddhism; the more enterprising of the tribesmen have traded in Assam, and even in Bengal; and the border people have had the opportunity of passing on into the interior the external influences around them. But although it is necessary to admit these facts, little seems to have resulted from them. The tribes exhibit primitive beliefs, and live in communities regulated by primitive social rules, which have hitherto provoked no comment of foreign origin from their observers.² How far indications occur of Hindu influence will be considered when we pass to the nature of these beliefs, and to the structure of the village groups which hold them.

¹ C. Aitcheson, "Treaties, Engagements, and Sanads." 1892, i. p. 283.

² Possibly there may be an exception in three small tribes inhabiting the Manipur valley.

Classified by language, the Nágas are members of that great race conveniently called Tibeto Burman, which extends from the source of the Indus to Siam. Of the early movements of the Tibeto Burman and Burmese races little appears to be known. Views recently put forward¹ assume a general movement from Central Asia southwards towards the Bay of Bengal of the Môn and Karén races, the Burmese, and the Sháns. The Nágas may perhaps be affiliated to the Northern hill tribes of Burma, known as the Kákhyin; or to the tribes who inhabit the hills to the west of Burma known to the Burmese under the name of Khyin or wild man, and their neighbours, the Kukis.² The identity of the Nágá and neighbouring Kuki tribes is an open question, though we may note that Mr. Damant found "as a rule, a marked distinction in dress and manners between the Kuki and Nágá, even in cases where their dialects closely resemble each other"; he adds "there is only one tribe with which I am acquainted, the Cheroo, dwellers in the hills of Manipúr, which in any way unite the characteristic features of the two . . ."³

No final classification of the languages spoken by the hill tribes of the North-Eastern frontier has yet been attempted. Mr. Damant wrote a careful account⁴ of many of the tribes and tongues of this frontier, including those of the Nágas and Kukis, but of some of the tribes little or nothing was then known, and his work claimed only to be provisional; and the recent Assam Census report, while admitting a great advance in our knowledge of the local Tibeto-Burman languages, observes that the affinities and differences between them have hitherto been scarcely touched.

The wonderful multiplicity of their languages is a salient characteristic of the Nágá race. Mr. Davis, Deputy Commissioner of the District, writes, "all the tribes in this district . . . speak languages which are at the present day . . . so different that a member of one tribe speaking his own

¹ "Report on the Census of India," 1891. J. Baines, p. 127 *seq.*

² *Ibid.*, p. 129.

³ G. H. Damant, "Journal Royal Asiatic Society," n.s., vol. xii, p. 228. Mr. Baines ("Indian Census, 1891, Report," p. 150) speaks of the Mikirs as included in the Nágá group, but this classification is not given as final by Mr. Gait in the "Assam Report," 1891. Passages in Mr. Baines' Report (pp. 129 and 150) on the relation of the Nágá to the Kákhyin people appear to contradict each other. It may be noticed that Mr. Damant states in a paper in the "Calcutta Review," 1875, that, "The Nágas are the oldest settlers, if not the aborigines, of North Cachar; we find that every other tribe has traditions of having lived in some other country."

⁴ "Notes on the Locality and Population of the Tribes dwelling between the Pehamaputrá and Ningthi Rivers." G. H. Damant. "Journal of the Royal Asiatic Society," n.s., vol. xii, p. 228 *seq.*

language is quite unintelligible to a member of the next tribe."¹ We find the same conditions described by Mr. Damant in the provisional paper already referred to. He placed the number of mutually unintelligible Nágá languages as not less and probably more than thirty. "In some instances," he adds, "perhaps a few may be reduced to the rank of dialects, but in the majority of cases they are essentially distinct languages" This linguistic variation he found at its height among the Eastern Nágás. Amongst these, he wrote, "the greatest confusion exists; there is such a multiplicity of tribes, each speaking a different dialect, and they are so small in numbers, sometimes consisting of only one village, that without visiting each village personally, it is almost impossible to define the limits of each tribe with any approach to accuracy, or even to say precisely how many tribes there are." The source of this immense number of dialects he found in the isolation of communities, in constant warfare: "Every tribe, almost every village, is at war with its neighbour, and no Nágá of these parts dare leave the territory of his tribe without the probability, that his life will be the penalty," In a further description of these Eastern Nágás he speaks of the many different tribes "all, or nearly all, speaking languages unintelligible the one to the other. Within twenty miles of country five or six different dialects are often to be found."²

It is noticeable that in several cases dissimilarity of language and dialect was not found to involve equal dissimilarity in customs and manners. Thus the *Mao*, *Maram*, and *Miyangkhang* Nágá, though very similar in dress and customs, spoke dialects which differed considerably; the *Lhota* language differed very materially from that of its neighbours, but in dress and customs they resembled each other closely; the Angámi did not differ materially from other members of the Nágá family in manners and customs, but the linguistic divergence was so great "that it is doubtful," Mr. Damant wrote, "whether they should not be classed as a distinct family of themselves."

Mr. Davis, the officer in charge of the Hill tracts, has reduced the language of the main Nágá tribes on the western slope of the Indo-Burman watershed to more or less grammatical form. He was said, in 1891, to be the best authority on the subject.³ We may refer to his section on the Nágá languages in the "Assam Census Report, 1891," p. 163 *seq.*

We have as yet no knowledge of the number of Nágá tribes which exist in the border hills. Mr. Damant gave a provisional

¹ "Assam Census Report," 1891, p. 163.

² G. H. Damant, "Journal Royal Asiatic Society," n.s., vol. xii, p. 225 *seq.*

³ *Ibid.* ⁴ "General Report Census, India, 1891," J. A. Baines.

enumeration of eighteen tribes. In the latest authority, the "Assam Census Report for 1891," nine tribes are given, viz.: the Angami, Ao, Kabui, Kacha, Kezhama, Lhota, Naked, Rengma, and Sema. Other tribes are named by earlier writers, but amongst all the various accounts of the hill people, extending over a period of nearly fifty years, none offers a satisfactory tribal record. Rather than attempt out of this confusion of many writers and imperfect knowledge, any individual treatment of the Naga tribes, the present sketch will aim at presenting as fully as possible the customs, beliefs, and usages of the Naga race, care being taken to preserve all well established tribal references. The only tribe which will be described separately is that of the Angami, of which a fairly full record is available.

NOTE.—The divisions of the Naga, named Miyangkhang and Maram, by Mr. Damant, have been used as synonymous with the Meeyangkhang, Murram, and Muram of Dr. Brown and Major McCulloch; and the Mao of the former for the Mow of the latter. Also the Maring of Mr. Damant has been taken as equivalent to the Murring of Dr. Brown. References given to Brown and McCulloch must therefore be read in the light of this nomenclature. References to these two writers refer to the "Account of the Valley of Munnipore and of the Hill Tribes," by Major McCulloch and the "Statistical Account of the Native State of Manipal and Hill Territory under its Rule," by Dr. Brown.

SOCIAL STRUCTURE.

Kin-groups.—The unit of society in a large tribe of the Naga race,¹ has been described as not the village but the *khel*, in other words society was founded on the tie of kinship rather than of common fealty, or common land. Men felt themselves bound to obey the laws of the kin groups; no man might marry within his own *khel*; curious funeral rites were performed over the dead by members of some other *khel*; and *khels*, living side by side in the same village, would stand so far apart in hostile feeling that no effort would be made by one to check the massacre, within the village walls, of another.

We have unfortunately very scanty evidence as to the structure of the other Naga tribes. The two tribes of the Aos, the Chungli and Mongsen, are divided into exogamous sub-divisions, the names of all or some of which vary from village to village. Although no member of any of these sub-divisions might marry within his group, any Mongsen could marry any Chungli.

An apparent survival of annual tribal marriage was recently observed among this tribe in a yearly festival at which the youth of one *khel* performed a mimic capture of the girls of another *khel*.²

¹ The Angami.

² See *infra*, p. 176.

Assam Census Report, 1891, p. 247. The Semá Nágás are divided into many exogamous sub-divisions, within which no marriage can take place. One or perhaps two other tribes are noticed as observing strict rules against the marriage of the same family.¹ In the absence of information all that can be asserted is a strong probability that the social structure of all the Nágá tribes was not more advanced than that of the powerful Angámi; that the tie of kinship and not the tie of land prevailed; and that thus the villages were merely convenient building places for clans to gather in, and not any organic part of the social structure. At the present day children belong to the father's *khel* in all Nágá tribes of the Nágá Hills District.

Village Government.—The government of a village community such as this would naturally tend to be democratic; each independent *khel* would demand a voice in any common action; and the system of blood-feud and head hunting would check the growth of any one clan into a position of supreme power.

We find accordingly that the village group is described as a democratic community, each man is said to be as good as his neighbour, and the headmen possess little authority.

Hereditary Chiefs.—In older accounts the presence is repeatedly noticed of hereditary chiefs who possessed a merely nominal power. In one tribe each village community had one or generally two such chiefs, and the eldest son took over the dignity during his father's life-time, should the latter be very infirm; the practical affairs of the tribe were settled by a council of (Lahupas) aged chiefs and warriors.² Another tribe possessed a McCulloch, hereditary village chief who had no great influence, r. 67. but received a leg of every animal killed for a feast, with the first of the wine; and the assistance of the village in his cultivation, if he asked it, on one day in the season; Brown, another account of possibly the same tribe describes p. 39. two hereditary village chiefs, the *Khulbu*, the head, and the *Khulákpa*, the inferior. The *Khulbu* by virtue of his office received the heads of all the game killed, and the first brew of liquor made by each family in the village community. The *Khulákpa* received inferior presents, and they were both entitled to seats of honour at feasts and other village meetings.³

¹ Among the Lhotas "marriage within the circle or (*sic*) a man's blood relations is not permitted." "Assam Census Report, 1891," p. 248.

² Angámi. See *infra*.

³ See McCulloch, p. 66, for a different account of officers of the Tangkool tribe, viz., the "Koolakpa" and the "Koolpoo."

(Miyang-
khang)
Brown,
p. 32.
(Marams)
Brown,
p. 32.

The villages of another tribe are said to have each a chief who is chief in nothing but name. The chiefs of the Maram tribe seem to have been regarded in the light of those semi-divine kings of whose onerous life Mr. Frazer gives full evidence.¹ The Marams were described in 1872 as having two chiefs, the great and the little chief. Neither had any fixed revenue, but the village would build the house of the great chief, and gave him the hind leg of all game caught. "Formerly, no one was allowed to plant his rice until the great chief allowed it, or had finished his planting. This mark of superiority is not at present allowed by the lesser chief, who plants without reference to his superior." There were many prohibitions in regard to the food, animal and vegetable, which the chief should eat, and the Marams said the chief's post must be an uncomfortable one, on account of these restrictions. Other primitive kings endured burdens similar to these of the Maram chief, as we may see in the account given by Diodorus Siculus of those kings of Egypt to whom only two kinds of flesh and a limited quantity of wine were permitted.²

Among the more Eastern Nágas, the chiefs' houses were much larger than those of the common people, according to Dalton; that of one chief was a well constructed building of 250 to 300 feet in length, and occupied "the centre and highest position in the village as the manor house." Dalton adds that the great chiefs had "chairs or rather stools of state on which they and their sons sit; the ruler's stool being the highest, that of the heir apparent a step lower and the other members of the family lower still."

Captain Brodie in 1841 found a (Changneye) chief to whom all the Nágas between the Deko and Jeypore looked as their head, "that is they pay tribute called chace consisting of some grain cloth &c., but beyond his own Dwar [viz., pass] I do not find that he has any real power or influence."³ Two other instances of a chieftaincy exerting limited powers may be quoted from a Report of 1854. Capt. Holroyd gives a curiously complex description of Nágá government:—Each clan is ruled by its council, and no important measure concerning the welfare of the clan [is] undertaken without the

¹ J. G. Frazer, "Golden Bough," i, chap. ii.

² J. G. Frazer, "Golden Bough," quoting Diodorus Siculus, "Bibl. Hist." i, 70.

³ "India Office Records." MS. Report of Capt. Brodie, Sept. 15, 1841. § 10.

consent of the elders. The president is called Khoubao, and the deputies Sundekee and Khonsaie; all consultations are held in the Morung or hall of justice, and no operation undertaken, till it has been carried by the votes of the council. The title, and position of Khoubao is hereditary, the eldest son invariably succeeding to the authority. The Khoubao receives all embassies replying thereto on his own authority or after consultation with his council, and in fact may be looked upon as the mouth-piece of the people. Still the power of the chief is paramount in all matters of life and death and the punishment of offences committed by any of his clan.¹

The other case of a limited chiefship mentioned by Capt. Holroyd is that of a "Changuoe" chief who aspired to a general control over all the tribes between what he spells as the "Boree Dehing" and "Dekhoo" rivers; but it did not appear that the offerings made by the other chiefs were considered as a mark of subjection, but simply a custom that had prevailed from the fact of the other chiefs all being descended in some way or other from the Changuoe family. (This looks like a later report of the Changney chiefship mentioned by Brodie in 1841.) Here the position of the chief was apparently based simply on priority of kindred.

Leaving these older records we find one tribe recently described as distinguished from other tribes of the Naga Hills district by the possession of hereditary village chiefs. "These chiefs," Mr. Davis writes in 1891, "have many privileges, i.e., their subjects cut their *jhams* and cultivate them for them for nothing; they get a portion of every animal killed in the chase, and generally are in a position far superior to that of an ordinary Naga headman. These chiefs invariably have three or four wives, and usually large families. It is the custom for the sons as they grow up to start new villages on their own account." A marked difference has been asserted to exist between the social system of certain Western and Eastern

¹ Capt. Holroyd. Mills' Report, Appendix M, p. exiii. This account is confirmed in a paper by Mr. S. E. Peal, written thirty years later, describing a visit to the Naga Hills. "A Sowdong and a Hunderkai both of whom I knew well, were here waiting for our arrival. A 'Sowdong' is a sort of travelling deputy to the Rájah (by 'Rájah' Mr. Peal seems to mean the chief of the tribe); and a 'Hunderkai' is a resident deputy, and is of a higher grade. The highest next to the Rájah and his family is a 'Khúnsai,' and there is one to each village." When Mr. Peal's party were passing on to see the village of Longhong, the Khúnsai of that place, who had met them on the road, gave them his formal permission to proceed, "this we had omitted to wait for, but it seems to be considered by them necessary." S. E. Peal, "Journal of the Asiatic Society of Bengal," vol. xli, p. 11.

Nágás,¹ powerful chiefs being ascribed to the latter, whereas in the former district the chief's authority would be almost nil. Captain Butler, Deputy Commissioner of the Nágá Hills, did not attach weight to this difference. In a paper of 1873, he says, "I am myself, however, rather sceptical on this point, and am inclined to believe that the Nágá nowhere really accepts a chief in our sense of the term." He proceeds to describe as chiefs men given power by popularity, "leaders of public opinion," nominally the heads of clans. "The Government of every Nágá tribe with whom I have had intercourse is a purely democratical one, and whenever anything of public importance has to be undertaken, all the Chiefs (both old and young) meet together in solemn conclave, . . . as to any one single Chief exercising absolute control over his people, the thing is unheard of."² Among the Luhupas, according to Dr. Brown, each village formed a republic of its own, p. 39. and there were no principal chiefs. On the other hand he describes the Mao tribe, with its twelve villages, as under one chief; from each house the chief received one basket of rice. Mr. Damant speaks of a tribe, "Jour. R. As. Soc.," to the north-east of Manipúr, who inhabited ten villages all under one chief. u.s., vol. xii.

That nominal hereditary village chiefs existed within the Nágá village inclosure is evident; but of the nature of their office we are left much in the dark. Surer ground is reached when we turn to the functions of the elected rulers.

Elected Rulers.—The elected heads of the Nágás are called by Johnstone, Sir James Johnstone *Puemahs*; he says that they "My Experiences in Manipúr," often remain in office for years and are greatly respected, though liable at any time to be displaced; p. 28. "they are in theory only *primus inter pares*." Four Mackenzie, or five middle-aged men who had earned a reputation p. 401. as warriors guided to some extent one of the eastern clans. The only constituted authority found by Stewart among the Nágás of North Kachar was that of the council of elders

¹ Aitcheson, Brodie, quoted by Butler, Sir A. Mackenzie, "North-East Frontier of Bengal," p. 86. Dalton, 1872, pp. 39 and 42, speaks of the Nágás east of the Doyang river as "divided into great clans under hereditary chiefs who appear to exercise great influence over their people." He infers from Stewart that west of the Doyang no chiefs are acknowledged. The passage in Dalton on p. 39, as to diverging polity, religion, and customs requires a map in the author's spelling to be intelligible. A passage in Mr. Aitcheson's "Treaties" is somewhat at variance with the account of the Semás in the "Assam Census 1891, and omits to notice the Angámi nominal but hereditary chiefs. He says: "Unlike the Angámis, Semás, and Lhotas, who are intensely democratic in their social economy, many of the eastern Nágás appear to acknowledge the authority of Rájás and minor chiefs among themselves." Aitcheson, 1892. Vol. i, p. 250.

² Butler, quoted by Mackenzie, p. 86.

who settled petty disputes and property disagreements, and the moderate authority of a "Gáon Búra"¹ or village spokesman, some elder appointed, not always for life, through a reputation for superior wisdom or by the influence of wealth; but as he overlooked the existence of the nominal Angámi chiefs his observation may have been at fault elsewhere. In the Rengma tribe a village council of elders settled all trivial offences, imposing fines on the culprits. Among the Angámis the village councillors settled matters of war and revenge, and administered fines for petty crime. The statement by Capt. Holroyd that the Khoubao or president of a clan council held office by hereditary right is noteworthy.

The democratic nature of the Nágá society is emphasised in the latest account we have. Mr. Davis, in the Census Report for 1891, says of the Aó tribe, "each village amongst the Aos is a small republic, and each man is as good as his neighbour, indeed, it would be hard to find anywhere else more thoroughly democratic communities. Headmen (*tátár*) do exist, but their authority is very small." The only Nágá tribe in which he finds headmen with any real power is that of the Sema, whose prominent hereditary village chiefs have already been noticed.

On the whole it may be concluded that the Nágá government consists in the decisions of a council of chosen members of a village, who confer on matters of public importance, and who administer punishment for crime; and in the persons of hereditary chiefs who exercise some rights and show some signs of primitive royalty, but who take little active part in the political and social administration. It may be conjectured that in former days the chiefs reigned supreme over each *khel*, by primitive right divine, and as descendants of the ancestors whose name the khels bear, and that as the khels gathered into village enclosures the civil power of the chiefs declined before the practical needs of selecting the fittest advisers for the community; and that out of this decline one or two of the more potent survived with partial power. But till we have more details, especially as to the inter-khel rules of precedence and as to the genealogies of the nominal chiefs, this must be merely surmise.

Central Authority.—No record is forthcoming of any general authority, whether of an individual chief or of a leading village, among the Nágá tribes. The Report of 1854 describes the Nágás from the Northern Kachar to the extreme eastern point of Assam as having no common bond of union; "each village

¹ For Gáon búra, read búrha = an old man. (Hindi.)

has a democratical government of its own, and each would reign distinct over its own hill and adjacent culturable lands, but that alliances have been forced upon them by the power and conquest of larger villages or been sought for to protect the weaker villages against the stronger. The confederation (*sic*) thus formed are however small, and are generally connected with some Dowar or passage through the hills to Assam or Ava, the monopoly of the trade by which they endeavour to secure for themselves."

Social Rules and Penalties.—The social rules and penalties by which individual life in a Nágá village is regulated include prohibitions to marry within a man's own *khel*; among the eastern tribes, according to Dalton, a prohibition to marry until a man had won the right to have his face elaborately tattooed, a right not granted till he had taken a human scalp or skull, or shared in some expedition in which scalps or skulls were taken; a stringent obligation to perform the duties of blood feud, a murderer being liable to punishment at the hands of the (Angámi and surviving relatives many years after the deed; a Luhupas.) punishment of death to the man for infringement of the marriage law; and fines for theft (for which offence in one (Luhupas.) tribe death might be inflicted if the thief were "caught red-handed"), and for petty offences.

The means for the prevention of crime within the Nágá communities in the case of the Angámi tribe, and doubtless in others also, fall into two divisions, those offences liable to immediate punishment by the hand of the aggrieved persons; and those adjudged by a council of elders. Murder comes within the first category; "the relations of the Mills, p. cxlii. murdered person instantly, if possible, spear the murderer without reference to the council of elders." In case of infringement of the marriage law the injured husband speared the offender "on the first opportunity," it may be inferred without reference to any council. Thefts and other petty offences on the other hand were disposed of by the elders, who imposed a fine and restoration of the property or its equivalent. Unfortunately this distinction of offences liable to individual justice, and those dealt with by the council, is only mentioned in one Report; more knowledge on this point is much to be desired. The penalty for infringement of the marriage law was death among the Mao, Maram, Brown. and Luhupa¹ tribes; among the latter the woman

¹ The fullest account we have of the Luhupa Nágá takes the Luhupas to be but a branch of the "Tonkhul" tribe. This account was written in 1873, and giving the preference to Mr. Damant's later classification, all descriptions of Tonkhuls and Tangkools will be inserted here as applying to the Luhupa tribe;

was never taken back by the injured husband. Nága punishments for theft included death, beating, and fines; on the other hand in two tribes it was of ordinary occurrence and not considered disgraceful. Lieut. Stewart in his account of the Nágas of North Kachar finds the chief social restraint in the system of blood feud, a system which seems to have penetrated the whole social structure. His account may be somewhat exaggerated, and may fail to take into consideration the obligations of savage religion, but it is of value as showing the impression made on an observer by the Nága communities fifty years ago; and also for showing how thoroughly these communities were actuated by the sense of kinship. After speaking of the Nága intense feeling for revenge, a revenge carried to extreme lengths Stewart, for even trifling offences, he says, "This feeling is p. 609. not confined to individuals, but taken up between communities, and often by parties in one and the same community. Is there a quarrel between two Nágas of different villages, the dispute inevitably causes bloodshed, and a feud is established between the villages of the two disputants, which nothing will assuage, and which, in time as advantage offers, will find issue in some dreadful massacre. The Nágas are exceedingly treacherous in enmity, and brook no insult. An insult given, it is a point of honour to have blood—and blood shed by one party calls for a like stream on the part of the other. When any difference occurs between two men of the same village, which is rarely the case, each individual has his party who cling to him and take up his quarrel, not by any means from a sense of justice, but from relationship—and a civil war ensues . . ." The result of this system Stewart found to be a reluctance to enter into quarrels which entailed consequences so disastrous, and hence a society "living in general peace and honesty." He compares the action of the law of revenge as an efficient deterrent among the clans of the Scotch Highlands some 150 years before the date of writing.

The restraint of life governed by inexorable blood feuds was mitigated among these North Kachar Nágas by a quaint custom. At stated times, once or twice a year, the whole village adjourned to some convenient place, and a general *melée* took place, everyone fighting for his own band. No weapons were used, but severe bruises and scratches resulted, yet these

if further knowledge shows that the Tonkhuls of Dr. Brown and the Tangkools of Major McCulloch are not synonymous with the Tangkhol subdivision of the Lubupas of Mr. Damant, the error may perhaps be pardoned in view of tribal perplexities recorded in apparently phonetic spelling.

Stewart, never gave ground for a quarrel, "whereas at other
p. 610. times the lifting of a hand would lead to a blood feud." This excellent system afforded vent for private grudges.

Marriage.—If the Nágá rules providing for individual punishments were stringent, the rules that regulate a tribesman's marriage are no less distinct. The elaborate and lengthy forms observed by the Angámi at the present day will be found fully described in the account of that tribe; a central feature is the repeated eating together of bride and bridegroom, doubtless the confirming act of union between them. Among the Luhupas if the omens (taken by holding up a fowl and observing how it crossed its legs) were favourable, Brown, parents or friends proceeded to arrange the pre-
p. 40. liminaries. On the marriage day two dogs, two daós, and liquor were presented by the parents of the bridegroom to those of the bride; and the bride's father then killed a pig which was eaten in the house of the bridegroom's parents. After marriage the bridegroom lived for a few days in the house of the bride's parents, after which he was conveyed to his own house, and another feast of dogs and fowls ended the proceedings. A bride-price was given for the wife. The Luhupas were said to be conspicuous for the amount of free will exercised (presumably by the young couple) in their marriage arrangements. The Nágá marriages of Northern Kachar included a Stewart, present to the family of the bride, and a feast to the
p. 614. whole village; the village in return built a house for the newly married couple.

In the Rengma tribe the consent of the girl was obtained as well as that of her parents, she having a right to Mills, refuse; the bridegroom according to his means gave
p. cxxviii. fowls, dogs, and spirits to the parents of the girl selected; on the day of his marriage he gave a grand feast to the whole village, they¹ in return being obliged to present the pair with a new house in the village. Dalton describes the more Eastern Nágás as marrying comparatively late in life, a Dalton, necessary consequence of the tattoo condition already
p. 41. noticed; there was also a bride-price² which often involved the youth in servitude, at the end of which he was provided for and set up by his father-in-law. A curious marriage omen occurs in the modern practice of the Mongsen branch of the Áo tribe. If a man's proposals have been favourably received, after thirty days the engaged couple go on a trading expedition

¹ The wording of the Report is vague, but presumably it is the village and not the parents who supply the house.

A. C. B., 1891, ² The recent "Assam Census Report" mentions that a wife-price is paid among the Lhota and Semá Nágás.
pp. 247, 249.

for twenty days; if a fair profit be made the omen is good and A. C. R., the marriage arrangements are proceeded with, but if Report, the results are unfavourable the match is at once 1891, p. 245. broken off. About three months later, as soon as the house is ready for her reception, the girl is escorted to her husband's house by all her relations and friends. "A feast is given on that day, both at her house and at the house of her husband's people." For the first six nights after a woman goes to her husband's house, six men and six women sleep in the house with the newly married couple, the men, including the bridegroom, sleeping together, the women sleeping with the bride.

It is of these Aos that we have a very recent account of what appears to be a survival of primitive marriage usage. Mr. Davis, Deputy Commissioner of the Nágá Hills district, from whose report the following description is quoted, was not aware of the existence of similar customs among any other tribe in that district. The customs take place at the second of the three chief festivals of the year, a festival held in August before the commencement of the harvest, and they fall into two parts. "The first of these," Mr. Davis says, "is the custom during the three days the A. C. R., festival lasts of having 'tugs-of-war' between the 1891, p. 244. young men and unmarried girls of each khel. The ropes used are thick jungle creepers of great length. The object of the girls is to pull the rope right outside the boundaries of the khel. This they are seldom allowed to do, the young men generally pouncing down on the rope and dragging it back before it has been taken clean out of their ground. After dark the ropes are dropped, and the second portion of the *tamasha* begins. The girls form into circles, holding hands, each khel on its own ground. They then begin a monotonous chant, at the same time circling slowly round and round. This dancing and singing go on for hours, its monotony being only interrupted by what may be called raids by the young men from a different khel. These come round with lighted torches, and having picked out the girls they consider most pleasing, proceed to carry them off by force. Such seizures, however, lead to nothing worse than drinking, the girls so carried off being obliged by custom to stand the young men free drinks."

Widows.—Widows are allowed to marry again in the Lhota A. C. R., and Ao tribes. In the latter if they marry before a 1891, p. 245 year has elapsed a fine is imposed; the rule with ^{229.} regard to widowers is the same. Sema widows are allowed to remarry. The Report of 1854 says that Nágá widows Mills, lived in houses of their own, built for them by the p. cxviii. villagers.

Divorce.—Divorce seems to have been resorted to more or less frequently by the Nágá tribes; among the Angámi the compensation to husband or wife varies with the cause of divorce, and an old report of this tribe states that in some cases a divorced woman might live in a house by herself and marry again. Among the Aos a woman who has been divorced for infidelity may not re-marry without paying a considerable fine to her former husband. With the Luhupas divorce was allowed, "but seldom resorted to on account of its great expenses." The present Lhota usage is of less interest as the tribe seems to be placing itself under English administration; marriages are described as made early and as almost entirely matters of arrangement, and divorce cases are said to be very common in consequence; numerous cases for the recovery of marriage expenses from runaway or divorced wives are brought before the divisional officer at Wokha. Among the Semás, women who leave their husbands merely because they do not like them have to repay their marriage price. Should they marry again without doing so a claim would lie against their new husbands. A curious result of Nágá divorce is given by Sir James Johnstone: "Divorce can be easily obtained when there is an equal division of goods. Often a young man takes advantage of this, and marries a rich old widow, and soon divorces her, receiving half her property, when he is in a position to marry a nice young girl."

Polygamy and Polyandry.—Nágá usage as regards polygamy seems to have varied. It was occasionally practised among the Luhupa Nágás, and in rare instances many wives were kept. Under the heading of "The Nágás of Upper Assam," Dalton wrote, "The Nágás confine themselves to one wife." At the present day the Aos and Angámis do not practise polygamy; the Lhotas permit it, but it is only in use among the rich; the Semás allow it, but do not as a rule practise it except in the case of headmen.

The Nágá tribes furnish some evidence on the relation of the respective numbers of men and women to polyandry. In discussing this subject Mr. Gait, in the recent Assam Census Report, says, "until very recently female infanticide was practised amongst several of the Nágá tribes, and there was in consequence a great deficiency of women, but polyandry never resulted from it."¹

¹ Gait: "Assam Census Report, 1891," p. 120.

Child marriage.—The proportion of child marriage is exceedingly low among the Ao and Angami tribes; the A. C. R., 1391. Luhupas and Nágas of North Kachar were described as not permitting marriage under age, and the latter not till the couple were able to set up house on their own account; the Lhota girls are generally married when thirteen or fourteen years old. Brown and Stewart, A. C. R., 1891, p. 248.

Among the hill tribes of the Nágá Hill district it is stated that immorality before marriage is usually within the *khel*, A. C. R., 1891, p. 250. that is between persons who could not marry in any case; the morality of the tribes in this respect is not described as high. Infringement of the marriage law was said to be rare among the Luhupas and among the 4) and 35. (Manipuri) Angami women.

Robinson speaks of the Nágas as having only one wife, "to whom they are strongly attached and of whose chastity they appear very jealous. The women . . . are said to be distinguished for the correctness of their behaviour."¹ The position of the wife among the more Eastern Nágas was good, according to Dalton; she had to work hard, but was otherwise well treated and shared with her husband in all festivities and social amusements.

Birth customs.—We have not much record of birth customs. Seclusion of the mother is noticed among the Angami tribes, and Brown, pp. 34 and 39. with the Luhupas a custom of placing rice in the mouth of the newly born child recalls a Kuki usage. With the Luhupas on the birth of a child, whether boy or girl, fowls were sacrificed and the women only of the village treated to liquor. Brown, pp. 39–40. The child immediately after birth had chewed rice placed in its mouth, and was immersed in almost boiling water, a treatment "supposed to render the child hardy, and prevent it in after-life from suffering from pains about the back and loins." The mother was wrapped in hot water blankets till faintness ensued; this was repeated two or three times, and on the third day the woman was allowed to go about as usual.

With the Luhupas, the ear-boring of children was often done collectively, on account of the great expense in p. 40. feasting involved therein.

If twins were born the Nágas held it advisable to destroy both infants, according to an official report of 1878–9. "Assam Ad. Report," 1878–9. Among the Nágá cases tried in the Sibsaigar district that year. "The only case of interest, as exhibiting

¹ Robinson's "Assam," p. 389. Mr. Peal indicates morality and modesty as attributes of the "Náganis," i.e., presumably Nágá women. Peal, "Jour. Asiatic Soc. Bengal," vol. xii, p. 19.

the tenacious persistence of savage customs, was that of a Nágá of the Youngia tribe named Nágpha, who was tried for exposing and abandoning his infant children. This man had lived for twelve years in the plains. He had been confined in the Sibságar Jail as a political offender, and after his release had settled down in the district, working at Jorhát as a sweeper, and had married a Nágá woman. His wife having given birth to twins, the parents promptly threw away the newly-born infants in the jungle, according to the usual practice of the Nágás, among whom it is considered most unlucky to have two at a birth . . . the father was much surprised at his conduct being considered in any way reprehensible."¹

This incident, and the custom reported to be practised by the Nágás, is analogous to a Kafir custom of killing one of twins, done among the Kafirs in order to preserve the life of the parents, especially of the father; the Kafir belief being that the injurious influence supposed to be exerted by twins, both of whom are allowed to live, may affect the father or mother, and if the influence does not kill either of the parents, the twins will kill each other by inducing mutual disease.²

Village young men's hall and guard house.—Before leaving the Nágá social customs one prominent feature of their village society must be noticed. This is the *dekha chang*, an institution in some respects similar to the bachelors' hall of the Melanesians, which again is compared with the *balai*, and other public halls, of the Malay Archipelago. This building, also called a *Morang*, was used for the double purpose of a sleeping place for the young men, and as a guard or watch house for the village.³

The custom of the young men sleeping together is one that is constantly noticed in accounts of the Nágá tribes, and a like custom prevailed in some, if not in all cases for the girls. Mr. Damant, in a paper on North Káchar, says of the Nágás, "only very young children live entirely with their parents"; the young unmarried boys and girls of the Luhupa Nágás were described as sleeping in separate houses apart; among the Semá Nágás at the present day, bachelors usually sleep together in separate houses but these are like the ordinary village houses, and are only used by the young men at night, and the unmarried girls sleep together by threes and fours in the front compartment of certain houses. Mr. Damant in the paper mentioned above, says: "the women

¹ "Assam Administration Report," 1878-9. II B., p. 11.

² Bishop Callaway, "Journal of the Anthropological Society," July, 1886, p. cxxxvii.

³ According to Stewart dekhna = young men (p. 613).

G. H. Damant, "Calcutta Review," vol. lxi; and "Report, &c., on Tour in North Cachar," 1875-6. have also a house of their own called the *dekhi chang*, where the unmarried girls are supposed to live"; in an official report of a tour in the North Káchar Hills in 1875, he notes of a large Nágá village in the hills, "I saw a Dekhi chang here for the first time. All the unmarried girls sleep there at night; but it is deserted in the day. It is not much different from any ordinary house."

The young men's hall is variously described and named. An article in the "Journal of the Indian Archipelago," 1848, says that among the Nágás the "bachelors' hall of the Dayak village is found under the name of Mooring. In this all the boys of the age of nine or ten years upwards reside apart."¹ In a report of 1854, the "morungs" are described as large buildings generally situated at the principal entrances, and varying in number according to the size of the village; "they are in fact the main guard-house, and here all the young unmarried men sleep; in front of the morung is a raised platform as a look-out, commanding an extensive view of all approaches, where a Nágá is always kept on duty as a sentry; in each Morung is a large scooped out tree with a longitudinal opening at the top, extending nearly from end to end and about three inches wide, this is used for sounding the alarm and collecting the warriors together, or on other grand occasions, it is struck with a wooden mallet." . . . "In the Morungs are kept the skulls carried off in battle, these are suspended by a string along the wall in one or more rows over each other. In one of the Morungs of the Changuæ village, Captain Brodie counted one hundred and thirty skulls, . . . besides these there was a large basket full of broken pieces of skulls."² Captain Holroyd, from whose memorandum the above is quoted, speaks later of the Morung as the "hall of justice" in which the consultations of the clan council (already described) are held.

Thirty years ago, the *Morung*, or bachelors' house, of an See A. C. R., Ao village was described by Colonel Woodthorpe, 1891, p. 242. in his "Report of the Survey Operations in the Nágá Hills for 1874-5," as a large building, divided into two parts by a low division; one half, the young men's sleeping place, was floored and contained a hearth, the other half was unfloored. The principal uprights were carved with large figures of men, elephants, tigers, lizards, &c., roughly painted with black, white, and reddish brown. Arranged round the walls were skulls of men and animals, and skilful imitations of the former capable of passing at a little distance for

¹ "Journal of the Indian Archipelago, 1848." II, p. 234.

² Mills' "Report," cxiii; the punctuation is left as in the original.

real skulls. "The ridge of the *morang* projects a few feet in front, and is ornamented with small straw figures of men and tufts of straw . . ." Near the *Morang* would be an open shed in which stood the big drum, formed of a hollowed trunk, and elaborately carved, generally to represent a buffalo's head, painted in front ("after the manner of a figure-head of a ship"), and furnished with a straight tail at the other end. The drum rested on logs, and was sounded by the fall of a heavy piece of wood and by beating with clubs.¹

A. C. R., 1891, p. 216. The *morangs* of another tribe, the "Naked" Nágá, have been recently described as situated close to the village gate, and consist of a central hall, and back and front verandahs. In the large front verandah are collected all the trophies of war and the chase, "from a man's skull down to a monkey's." Along both sides of the central hall are the sleeping berths of the young men; the centre space, floored with massive planks, is left open and used by the braves for their dances.

From these accounts we see that the Nágá *Morang* was used as a sleeping place for the young men, as a relic house for the collection of skulls taken in battle and of animal skulls taken in the chase, as a dancing-place for the "braves," as a council hall in which the clan council met for consultation, and as a guard-house.

Speaking of the Mao and Muram tribes, Dr. Brown says, Brown, p. 31. "the young men never sleep at home, but at their clubs, where they keep their arms always in a state of readiness." This club aspect of the institution is well shown in Mr. Damant's account of it as existing among the

G. H. Nágás of North Káchar. At each end of the village,² generally on the highest point of land, Damant, "Calcutta Review," vol. lxi. stood a *dekha chang*, and if the village was large there was occasionally a third in the middle; the building was a kind of guard-house, where all³ the

young men of the place kept watch at night, and spent the greater part of the day. It was built like the other houses, but a good deal larger and higher; in front were raised seats where the greater part of the village assembled in the evening and drank rice-beer, while the young men practised running and jumping and putting the stone, of which they were very fond. Inside it was fitted up with benches in two squares, and in the middle of each a fire was constantly burning. Weapons were ranged

¹ R. W. Woodthorpe, Survey Report, Nágá Hills, 1874-5, quoted in A. C. R., 1891, p. 242.

² The recent "Assam Census Report, 1891," says of the Lhota Nágás, "the *Morangs* or bachelors' houses are conspicuous at each end of the village."

³ "All" is doubtless an error for the night guard set from among the young men of the village.

round the walls, and fastened to the rafters were innumerable skulls of buffaloes, metnas, and wild boars which had been killed in the chase or sacrificed; from the rafters hung a basket full of drinking cups and ladles. In the back-ground there were generally a few pigs, and two old women perpetually grinding rice flour for the manufacture of beer. The dekha chang was also used as a guest house for friendly strangers. In this paper, perhaps referring only to North Kachar, Mr. Damant speaks of the dekha chang as the great institution of a Nágá village. Among the Angámi the custom for the young men to sleep in a house or houses apart was continued for one year after marriage; and among the Marams, according to Dr. Brown, "the married men even sleep at the resorts of the bachelors, a custom resulting from their sense of insecurity from attack."

With the Aos at the present day the custom seems to be becoming obsolete; sleeping houses are provided for bachelors, but are seldom used except by small boys. Unmarried girls sleep by twos and threes in houses otherwise empty, or else tenanted by one old woman.

The analogy between the *Dekha Chang*, or *Morang*, of the Nágás and the men's hall of the Melanesians is too close to be overlooked, and in view of the significance of all evidence concerning the corporate life of early communities a description of the latter is here quoted. I am aware of no recorded instance of the women's house, other than these Nágá examples.

Codrington, "Melanesians," p. 102. "In all the Melanesian groups it is the rule that there is in every village a building of public character where the men eat and spend their time, the young men sleep, strangers are entertained; where as in the Solomon Islands the canoes are kept; where images are seen, and from which women are generally excluded, . . . and all these no doubt correspond to the *balai* and other public halls of the Malay Archipelago."

Individual Property in Land and Inheritance.—Individual property in land is recognised among the Angámi of the Nágá Hills district, and a married woman is allowed the possession of property in land in her own right; the sons receive their share of the father's landed property at marriage; unmarried sons receive equal shares after the father's death.² A very different system was observed among the Luhupas. On the eldest son of a family marrying, the parents were "obliged to leave their house with the remainder

¹ Codrington, "Melanesians," p. 102.

² A. C. R., 1891, pp. 240 and 250. The Report does not make it quite clear whether the equal shares refer to landed or other property.

Brown (Luhupas), P. 40. of their family, the son who had married taking two-thirds of the parents' property, not only of the household, but of his father's fields, &c." Occasionally the parents were recalled and allowed to remain for some time, but eventually they had to leave and the property was claimed and divided as above stated. When the parents were well off they provided a house beforehand. The same process might be repeated again and again as the sons married, but according to usual custom the parents might return to the house of the eldest son, after several repetitions.

McCulloch. McCulloch says of the "Tangkool" that, "on the pp. 66 & 68. marriage of his son, the father becomes a person of secondary importance in the house, and is obliged to remove to the front part of it." Of the Luhupas he says the parents and family had to move from their house on the marriage of both the eldest and second sons.

A. C. R., 1891, p. 250. The following note given by Mr. Davis, in the recent Assam Census Report, concerning the present state of property in land in the Nágá Hills district, deserves quotation in full: "Private rights of property in land are the rule amongst all the tribes in this district, except the Kukis, Mikirs, and plains Rengmá, *i.e.*, the migratory tribes. That private rights of property in land are not recognised amongst these tribes is due to the fact that they are in no way pressed for land, the villages being small and uncut jungles extensive. When, however, we come to tribes like the Angámis, Lhotás, and Aos, who live in permanent and large villages, and amongst whom land is none too plentiful, we find that the rights of individuals to property in land are well known and well recognised, and the rules as to inheritance and partition of such property settled by strict customary law. Amongst the Angámis land, specially permanent terraced cultivation, is freely sold and bought, there being no more difficulty in selling a terraced field than in selling a pig or a cow. Amongst the other tribes the custom of letting out land is largely practised, a rent varying from Rs. 3 to Rs. 5 for a field (*jhám*) large enough for the support of a household being the usual amount charged for the use of land for two years."¹

G. H. Damant. NOTE.—An extraordinary village rule is mentioned by Mr. Damant, in speaking of the Nágás of the Northern "Calcutta Kachar Hills: "Each village has its own boundaries, and they exact rent from any other Nagas who may venture to vol. Ixi; and Report on joom [*jhám*] within their limits, though they do not interfere with Kookies [Kukis] or Cacharies." In a Report of 1876, long in North on a tour in the North Kachar Hills, Mr. Damant says Kachar Hills, that among the Nágás each village only *jhám*s within its own 1876, § 7. limits.

¹ "Assam Census Report, 1891," p. 250.

Slavery.—We have but little information as to the existence of slavery among the Nágás. Among the Aos it is said to A. C. R., have been universal. Slaves were not infrequently 1891, p. 244. paid by one village to another to make up a quarrel, and as a kind of compensation for heads taken by them. "Slaves paid in this way were invariably slaughtered by the village which received them, as an offering to the spirits of the men on their side who had been killed." Female slaves were not allowed to marry or have children, and are not tattooed. Slavery was unknown among one or more tribes according to Brown, pp. Dr. Brown. He describes the Luhupas as violently 30 and 42. opposed to it. An instance of their hatred of the practice is given in the action of a father who being unable to release his children who had been captured in resistance to the State of Manipur and sold as slaves, came down the hills, slew them both, and carried away their heads.

Oaths.—The value of a Nágá oath is variously estimated. A. C. R., The oath of the Semás of the present day is said to 1891, p. 247. be untrustworthy; this tribe are also accused of having had a disregard for the law of hospitality amounting to the killing of a well received guest, when off his guard, without G. H. compunction. On the other hand Mr. Damant, Dan ant, while on tour in 1875-6, was much struck with the 1875-6. extreme respect shown for an oath by some North Kachar Nágás; the people of a certain village declining to accept an offer made by another village of meeting their demands in full, on condition of the claim being made on oath, by reason of inability to state quite exactly the amount of damage done.¹

Tattoo.—The use of tattoo among the Nágás is another of the many points on which we have just enough information to make us wish for more. An incident mentioned by Mr. Peal, writing in 1872, indicates that the tattoo was a means by which neighbouring tribes, separated by the diversity of languages which obtained among them, recognised one another: "When once with a number of Banparas [Nágás] on the road, a large party of Nagas passed, and as neither party spoke, I asked who they were. I was pointed out their hill, and on asking why they did not speak, they said they would not understand one another. This I thought a good opportunity to try them, and told them to call them in Nágá and ask who they were. On being called to, they all turned round, and stopped, but said nothing; I then made them call again; but to no purpose, the other party simply jabbered together in twos and threes, and on calling them a third time as to where they were going, they

¹ G. H. Damant, "Official Diary of Tour in North Kachar Hills," 1875-6.

shouted out a lot of Nāgā which my fellows could not make out. Both parties passed on, unable to exchange a word, though living within a few miles of each other. A few words did pass, but they were Assamese. I asked how they knew the men, and they said 'by their āk,' or tattoo marks."¹ The old records of 1842-4 say that most of the tribes in that north-eastern part Mackenzie, of the Nāgā country lying between the Bori Dihung p. 86. and Dikhu rivers had their faces tattooed with distinctive marks.

A. C. R. Among the Aos of the present day the men are 1891, p. 243. not tattooed. The women are tattooed on face, neck, breasts, arms, and legs. The tattoo on the face is slight and confined to four vertical lines on the chin; these are the same for both the Chungli and Mongsen sub-divisions of the Aos.² The other tattoo marks are different for either sub-division, the difference in pattern on the arms and calves of the leg being very noticeable.

Besides the use of tattoo as a mark of a man's tribe, it was, as we have seen, the sign of a successful head-taking which G. H. permitted a man to marry. Mr. Damant says of Damant, the more Eastern Nāgās that "most of the tribes Jour. R. tattoo; the tattoo, 'āk,' as it is called, not being given Asiatic Soc., vol. xii, n.s. except to men who have killed an enemy."

Referring to Nāgā Hills usage Mr. Peal speaks of social position as depending on tattooing, the tattoo being only won by bringing in the head of an enemy; the man who brought in a head was no longer called a boy or a woman, and could assist in Peal, Jour. councils; it was said that he seldom went out again on Asiatic Soc., a raid. "The head he brings, is handed to the Rājah, Bengal, vol. who confers the 'āk,' or right of decoration by tattoo, xli, p. 20. at which there is great feasting." All those who got heads won the āk on the face; those who got hands and feet had marks accordingly, for the former on the arms, for the latter on the legs. Mr. Peal adds that no two tribes had marks alike, and some even did not tattoo the face.

Tattoo thus seems to have been the sign of full membership in the tribe; not till a man had shown his efficiency as a fighter might he wear the tribal badge or take the position of a married man.

¹ S. F. Peal, "Journal Asiatic Society of Bengal," xli, p. 23.

² Although the tattoo is partially alike it may be noticed that the dialects of the Chungli and Mongsen are so dissimilar as to be practically different languages. A. C. R., 1891, p. 241.

RELIGION.

Some clear forms of primitive ritual and belief emerge from the meagre accounts which are at present our only record of the religion of the Nágá race.

That record is incomplete at every turn; only one observer gives a named list of gods; yearly festivals are passed by with a hasty word; and scarcely an attempt has been made to arrive at the convictions which underlie the active ritual of a people whose lives are conditioned by their supposed relations with spiritual forces.

Chief Deity.—There is little evidence as to whether the Nágás do or do not believe in any supreme deity.

A belief in a supreme creator called Terhopfò or Kepenopfò A. C. R., is ascribed, in the late Assam Census Report, to the 1891, p. 241. Angámi of the present day, and twenty years ago a partial if not general Angámi belief in a supreme benevolent deity, who dwelt on the highest hills, was recorded. Among Sir J. this tribe Sir James Johnstone found a "vague Johnstone, indefinite belief" in a beneficent supreme being, in p. 32. common with most of the hill tribes with which he Brown, was acquainted. The Luhupás, according to Dr. p. 41. Brown, believed "in one supreme deity, who is of a benevolent disposition, and who inhabits space." Robinson says of the Nágás, "They seem to have a perception that there must be some universal Cause to whom all things are indebted for their being. They appear also to acknowledge a Divine Power to be the Maker of the world, and the Disposer of all events: Him they denominate the Great Spirit. Their ideas of him, however, are faint and confused; and of his attributes, they are entirely ignorant."¹ On the other hand Stewart found none among the Stewart, various deities acknowledged by the North Kachar p. 611. Nágás to whom creation was ascribed, "the universe being pre-existent to their gods, and remaining unaccounted for." Further information would probably show belief in a distant first cause, remote from the affairs of living men.²

Various Gods or Spirits.—No uncertainty hangs over the Nágá beliefs in the power of the unseen agencies who cause sickness, and give prosperity, to whose favour riches are due, whose dwelling is in the uncut jungle, or rocks, or water, before whose presence on a day of sacrifice all evil spirits must be

¹ Robinson, Assam, p. 396.

² Mr. W. Crooke considers that there may possibly be Vaishnava influence in any belief in a single supreme deity among any of these Nágá or Kuki tribes.

driven from the village, and who are challenged for the death of a tribesman with curses and war cries.

Mills, 1854, p. cxlii. Many gods or spirits, each with power to give prosperity and success, or to inflict sickness and calamity, dwelt in the Angami hills; to these the people sacrificed cows, mithun (wild cow), dogs, cocks, and liquor.

The Nágas of North Kachar were characterised by Mr. Damant G. H. as a very religious people, doing nothing of importance without sacrificing a fowl or pig, or offering up some eggs or beer. We are indebted to Lieutenant Stewart for a named list of the gods of this district. "The first person in their mythology is 'Semeo,' the god of riches, to whom all those who seek wealth make sacrifices." He was supposed to inflict sudden reverses of fortune and sickness on those who having wealth did not sacrifice to him; large animals were reserved for him. "Kuchimpai" was the god of the harvest, as well as one possessing general influence over human affairs; to him sacrifices were made of goats, fowls and eggs, and prayers were offered for the prosperity of the crop. Among the malignant deities "Rupiába" had the first place; to his displeasure all the misfortunes that may fall on men were ascribed; offerings of dogs and pigs were made to appease his wrath; in appearance he was supposed to be fierce and ungainly, with one eye in the midst of his forehead. Rupiába had an assistant in a fierce blind god named "Kangniba"; he was worshipped at cross roads where passers-by piled up his propitiatory offerings, generally consisting of a few common leaves. Stewart says this is because he cannot distinguish the value of his offerings; "when fowls are sacrificed to this god, a very small fowl indeed is selected, and placed in a large basket at the appropriate place. The blind god *feeling* the size of the basket, takes it for granted that the contents are commensurately bulky, and deals his favours accordingly!"

Brown, p. 41. The Luhupas believed in a deity of evil disposition who resided between heaven and earth, and in whose hands was the power of death. Of the Rengmas, the old Report of 1854 tells us, "Like other hill tribes, they acknowledge the power of a plurality of gods, and sacrifices of cows, pigs and fowls are offered on all occasions."

Mills, p. cxviii. The Aos of the present day are described as having an intense belief in the powers of certain spirits,¹ which A. C. R., 1891, p. 244. reside usually in rocks, pools of water, and streams. "Two of the most well known stones in which reside *Deos* are

¹ Characterised in the Census Report as "evil"; in what sense is not stated. In connection with primitive ethics it may be interesting to note that in several languages of this frontier (Manipuri, Kachari, Ao Nágá, Lhota Nágá,

the Lungpalung, close to Lungpa village, and the Changchanglung, between the villages of Dibua and Woromong. Sacrifices are regularly offered to these stones by the villages near them."

Infra, s.v. The Angámi have been recently described as Angámi, believing in "evil" spirits (see note¹ p. 187) residing in rocks, trees, and pools of water.

Sanctity of Forests and Trees.—The sanctity attached to forests appears in the solemn rites enacted by the Nágás of North Kachar, before burning the newly felled wood. The A. C. B., "Genna" mentioned in the following description is a 1891, p. 249. ritual custom, still common to Nágá and Kuki tribes, of placing a rigorous taboo on villages, clans (*khels*), or individuals. "Before burning newly felled patches of jungle for cultivation, it is the invariable custom to establish a Genna. On this occasion, all the fires in the village are extinguished, and a cow or buffalo being slain, they roast it with fire freshly kindled by means of rubbing together two dry pieces of wood, make sacrifice and eat, after which they proceed in procession with torches lit from the fresh fire to ignite the felled jungle."¹

Localised forest-dwelling deities were recognised by the Nágás of this district. "Certain parts of the forest," Mr. Damant wrote, "are supposed to be the abode of deities, and no traveller passes without plucking a branch off the nearest tree and putting it on a large heap of former offerings, which is surrounded by a number of egg-shells stuck on sticks, and bones of animals that have been sacrificed." Nágá tree worship was not only a thing of the forest. Every village of the war-like Lhota tribe was described in 1879 as containing a sacred tree to which the skulls of victims were nailed. In describing a visit to a village of the eastern Nágás, Mr. Peal says that the fruit of village 'jack' trees was said to be "religiously respected."

The jungle seems to have been regarded by the Angámi as a

and Tamlá), the word for bad is merely the word for good used with the negative particle; i.e., *not* good = bad. Thus in Ao, *ta-chung* = good, and *ta md chung* = bad (*ta* = adjectival prefix, *md* = not); and in Lhota, *mho* = good, and *'mho* = bad (*'m* = not). The Angámi and Sema Nágás have separate words for "bad," but the word for good with the negative particle is as frequently used to express bad as the special words. See "Assam Census Report, 1891," p. 167.

¹ Stewart, 612. See Dalton, "Ethnology of Bengal," p. 43. On p. 40, Dalton, speaking of the destruction of forests by the more eastern Nágá says: "They appear to have no superstitious dread of the sylran deities like the Abors to restrain them."

dwelling place of the spirits which caused severe sickness, and also sudden deaths of animals. In sickness, offering was made of part of a fowl in the road, at evening, but if the sickness was severe, the fowl was taken into the jungle and left alive "as an offering to the living spirit"; to one spirit, the offering would be killed and left in the jungle. In case of sudden death of cows, or pigs, an invocation was addressed to the spirit "at the spot on which the cow was killed,"¹ in which it was reminded "this is not your residence, your abode is in the woods."²

Intercourse with Gods and Spirits.—Only the most inadequate evidence is available as to the relations between the Nágas and their gods and spirits. Intercourse, we gather, is carried on by means of sacrifice and omens, and doubtless by invocation, as in the case of the wood spirit mentioned above.

Sacrifice.—Nágá sacrifice is of that primitive order in which the rite is an act of uniting the worshipped and the worshippers by means of the great primitive bond of eating together; a fact of the utmost significance in appreciating the religious position of these tribes. Speaking of tribal beliefs, Mr. Gait says, summing up the main features "common to almost all the tribes" of the Assam frontier, "on all necessary occasions goats, fowls, and other animals are offered to the gods"; to these the blood and entrails belong, the flesh being divided amongst the sacrificer A. C. B., and his friends, and the presiding "soothsayer" usually getting the chief share. This general statement is corroborated by Stewart, who says, writing forty years ago of the North Kachar Nágas, that to the gods little more than the entrails and offal were apportioned, the remainder of the sacrifice being consumed by the petitioners. It is unnecessary to quote examples of the world-wide rite of offering the blood, the vehicle of life to the primitive mind, to the god, while the material flesh is eaten by the worshippers.

The commensal sacrifice, in which the god and his worshippers meet together in the partaking of a common offering, suggests a certain nearness of the supernatural presence, and the same idea seems carried out in the curious village ritual of a "day of sacrifice" described by Mr. Damant. In an official diary of a tour in the North Kachar Hills, in 1875, he writes, "I was in a measure obliged to halt to-day, as the Nágas were holding a Kanang or Ganang—i.e., a day of sacrifice,—and refused to go to Mujudni, my next stage, and to have compelled them would probably have created a disturbance. They said last night that the village

¹ In the Report the reference may be to death by a tiger.

² See *infra*, s.r. Angámis.

would be closed against everyone, including myself. I objected to this, and told them I should insist on going into the village whenever I pleased, though I would prevent any of my people going while the worship was going on. After some demur they

agreed to this. This morning their "Hojai," as they call the priest, came to the gate of the ponjee with two other men, one leading a dog and the other scattering grains of rice, the Hojai calling in a loud voice to all evil spirits to leave the place; the dog was brought out and sacrificed by beating it to death with clubs, and then taken away to be eaten. On these occasions they neither leave the village themselves, nor suffer anyone to enter it, and they will do no work." On passing another place which was holding a *Kanung*, Mr. Damant found a fence built across the entrance to the village.

Ceremonial seclusion and taboo.—This brings us to the custom of *Genna*, or the ceremonial closing of a village or house, which seems to be enforced on occasions of special manifestation of supernatural power, or of intercourse between the gods and their worshippers. Thus a *Genna* will be enforced during a village festival; during an unusual occurrence, such as an earthquake, or eclipse, or the burning of a village within sight of the village on that account ceremonially closed;¹ according to Stewart, "*Genna*" was observed after consultation of omens to discover the deity to be worshipped in any special case,—"*the village is strictly closed for two days, the inhabitants abstaining from all labor, and neither going out themselves nor permitting anyone to enter during that period,*" a prohibition doubtless intended to prevent the possible return of the evil spirits so carefully expelled by the priest whom Mr. Damant saw at work; and

"*Genna*" was invariably established as we have seen at the making of new-fire by the village, accompanied by a commensal village sacrifice, before the burning of the newly felled jungle. "*During gennas affecting whole villages or khels no work is done. The people remain in their villages; outsiders are, by strict custom, not allowed into the villages, or, if allowed in, cannot be entertained. Nothing is allowed to be taken out of the village or brought into it during the continuance of a genna.*"

¹ Mr. Damant, in his official diary of his "Tour in the North Kachar Hills," 1875, writes, "Went on to Nenglo . . . The Nāgās did not give me a dance as usual, because a tiger had killed a *metna* and a *kanāng* was being held: it appears to mean a day devoted to *poojah*—at any rate, they will do no work except what is absolutely necessary, and will not stir out of the village if they can help it."

The custom affects not only villages, or khels, but also single households. A household Genna occurs at the birth of a child, or if any domestic animal, such as a cow or dog, brings forth A. C. R., young. "On such occasions no outsider is allowed 1891, p. 249. into the house, and food and drink can be given to no one, even the most intimate friend." The Deputy Commissioner of the Nágá Hills, Mr. Davis, was himself refused a drink at a house because the house dog had had puppies. Mr. Davis attributes two meanings to the word: (i) it may mean practically a village holiday (as in the early reports, which describe the people as refusing to work during the "Taboo" period); (ii) *Genna* means anything forbidden.

The old accounts of funeral rites evidently refer to a death *genna*, when it is stated that after the death of a man of any Mills, standing, none of the inhabitants of a village quitted p. cxliii. it for three days; and that for three or four days after a death the relatives do not leave the village, neither do other villagers resort to the village in which a death has "Jour. Ind. occurred during that period. On the whole the Arch." vol. ii, Nágá and Kuki *Genna* appears to be much the same p. 34, 1894. as primitive religious taboo.¹ The distinction between A. C. R., *gennas* affecting whole villages, *khels* only, or single 1891, p. 249. households, is noteworthy.

A curious custom which now prevails among the Lhota and Áo Nágás seems to indicate a belief that any place or persons, against whom supernatural displeasure has been manifested, are dangerous or "taboo"; the spiritual infection extending even to the clothes of the household. Mr. Davis writes, "Should any member of a household be killed by a tiger, by drowning, by falling from a tree, or by being crushed by a falling tree, the surviving members of the household abandon the house, which is wrecked, and the whole of their property, down to the very clothes they are wearing, and leave the village naked, being supplied outside the village with just enough clothing to cover their nakedness by some old man amongst their relations. Thenceforth for a month they are A. C. R., condemned to wander in the jungle. At the *ibid.* expiration of this period, the wrath of the deity being supposed to be appeased, they are allowed to return to the village. Neither they nor anyone else can touch again any of the abandoned property, nor can a fresh house be

¹ Brown (p. 19) mentions what looks like a food taboo among the Nágás and other hill men within Manipur rule: "Milk, or any of its products, is avoided equally by all the tribes: milk seems to be considered unclean and unfit for food." This prejudice does not extend to the suckling of children, who are not removed from the breast unusually early."

built on the site of the old one that has been abandoned. The custom is, I believe, still carried out with the greatest strictness."

We seem to have here the same order of thought which enforces a ritual seclusion during times of sacrifice, or of unusual occurrences in a village, or in the presence of birth or death.

Disease.—The confusion of primitive thought between abstract and concrete, between spiritual agencies and material substance, is well shown in the Nágá attitude towards disease. How tangible a thing to them the power of sickness is, we see in an incident noted by a former Political Officer of the Nágá Hills. At the Government station of Samaguting a Kuki was attacked by smallpox, and kept by his friends in the scouts lines. The destruction of the lines was necessary, and the Nágás learnt of the case. "The two old Chiefs paid Ad. Report, hurried visits to announce that they were all off, Nágá leaving their property to our care, and only asking Hills, 1876-7, p. 11. for a bottle of rum to be taken as medicine if they got ill in the jungle. Attempts to reason with them were not the slightest use, and away they all went. The disease was treated as a personal enemy, and the village abandoned as would have been done before the coming of an invader too powerful to resist. The men were all fully armed, the women and children were surrounded, and then all started fair at best pace; they kept away a month, and then returned with the same precautions as when leaving, approaching very cautiously with shields well to the front, and peeping round every corner before a further advance, until gradually the whole village was occupied. When they fairly satisfied themselves that no one but the Kookie had been ill, they were rather ashamed of running away; but it was not until some time after when they saw him going about, very little the worse in appearance, that the idea that he had been burnt alive was abandoned. Before, nothing would persuade them that this had not been done, it being looked upon as merely a wise precautionary measure for which we deserved credit."

A belief in a disease-giving spirit which can be guarded against by shields and arms, is in perfect consonance with the Nágá funeral rite of a war challenge to the power which Brown, p. 32. has treacherously slain the dead man. Sacrifices or A. C. R., offerings are recorded to deities or spirits in case of 1891, p. 258. sickness; one mention is made of feasting the poor of

¹ "Report of Nágá Hills Administration," 1876-7, by the Political Officer (P. T. Carnegie), p. 11.

A. C. R., the villages'; among the A'os pigs and fowls are sacrificed in large numbers in order to appease the particular spirit to whose malign influence the sickness is supposed to be due, the offerings being consumed by the friends of the giver of the sacrifice. The Angami made offering of part of a fowl to the disease-causing spirit in the evening, a seemingly chthonic act; parts of the fowl were given to some other family, and the remainder was eaten by relatives of the sick man.

Omens.—Omens seem to have played an important part in the intercourse between gods and men. In North Kachar they were supposed, according to Stewart, to indicate the particular deity that was to be worshipped in order to attain a desired end, or to avert evil. That being ascertained a strict *Genna* would be imposed on the village for two days. Of the Angami it is said that all business or undertakings of importance were decided by consulting omens; the omen might be taken by a prescribed method, or might consist in the common animal omen of an "unlucky beast" appearing in the path. The following method of divination noticed by Mr. Carnegie among the eastern (Sibsagar) Nāgās, was employed before going out on a head-hunting expedition; if the omen was bad the party would not start. "The mode which they have shown me was a very simple one. The leader of the intended war party simply cuts two thin chips of wood about the size of the thumb-nail, and holding them lightly together between his finger and thumb lets them fall on the ground from the height of 18 inches or so; if the chips fall and lie close together on the ground, the omen is favourable and the party start. If the chips fall far apart, then they put off the expedition to another day. I believe they have other modes of divination which they would not show as they were evidently averse to talking on the subject, and very reluctantly explained their chip system."¹ This reluctance to explain the form of divination coincides with Stewart's statement that omens were employed with express religious intention, a statement very significant for the origin of practices common alike to the primitive savage and the European peasant.

Festivals.—There is at present the scantiest evidence concerning the festivals of the Nāgā ritual year. The great Angami tribe celebrate two chief village festivals, the *Sekrenge* held shortly before the new year's work in the fields is begun, and the *Terhengi*

¹ Brown, p. 32; ² village, as it stands in McCulloch from which Brown takes the above (McCulloch, p. 70).

² P. T. Carnegie, Official paper quoted by Sir A. Mackenzie, Appendix C, p. 403.

or Harvest Home. At the *Sekrenge* dogs (a favourite Nágá food) are killed and eaten in large numbers. At the *Terhengi* great *Izfa*, *s.c.* feasts are given by wealthy Nágás. The Angámi also Angámis. have many minor festivals during the year, the chief of these being that held just before the paddy harvest begins. Among the Aos, three chief yearly festivals are enumerated, two of which occur in August, before the commencement of the A. C. R., harvest, and one at the close of the harvest; the 1891, p. 244. mithán (presumably mithun, viz., wild cow), slain for these festivals were killed by hacking with *daos* (Nágá hatchet-swords), the animal finally dying from loss of blood. At the second Ao festival in August, which lasts three days, the apparent survival of tribal marriage, already noticed, is A. C. R., enacted. Among the Lhota "the chief festivals, 1891, p. 248. as amongst the other tribes, are those after harvest and before the commencement of the new year's cultivation." Among the Sema of the present day, the principal village A. C. R., festivals are those that occur after the conclusion of 1891, p. 247. the rice harvest, and before the commencement of the new cultivation. Men who wish to obtain fame by feasting their fellow villagers, usually do so at the harvest home festival (as among the Angámi). We have no details as to the rites performed at these festivals.¹

With the Luhupas one month is marked by a ritual of the Brown, dead. Once every year in December each village p. 42. held a solemn festival in honour of those of their number who had died during the preceding year. The village priests conducted the ceremonies, which culminated on a night when the moon was young. On this occasion, it was said, the spirits of the dead appeared at a distance from the village, in the faint moonlight, wending their way slowly over the hills, and driving before them the victims slain, or the cattle stolen during their lives; the procession disappeared over the distant hills, amidst the wailings of the villagers.²

Funeral rites.—The Nágá funeral rites are in full harmony with the fierce and warlike nature of these tribes. To the Nágá the obligations of blood feud extended, beyond the slaying of visible enemies, to defiance of the unseen power:—"Than thou Spirit who destroyest our friends in our own presence we have no greater enemy . . . Whither hast thou fled?" A

¹ Dr. Brown, p. 31, says that the Mao and Maram tribes had two festivals in the year, "like the two principal ones" of the Kabuis; as he does not specify the two Kabui festivals which have pre-eminence in his account of that tribe, we are not much enlightened.

² Dr. Brown adds, "Unless the village priests are well fed, it is said this appearance will not take place." He says that this is the only stated time for holding a festival, among the Luhupas.

funeral witnessed some sixty years ago shows the elaborate nature of this challenge, although ending in the sign of Hindu influence, the cremation of the dead. The writer, a Baptist Missionary, says, "This day was the completion of the sixth month after the death of a wife of one of the chiefs. Their custom is to allow the corpse to remain six months in the house; at the expiration of which time the ceremonies I have this day witnessed must be performed." In the morning buffaloes, hogs, and fowls were killed. About noon Nágas in war equipment, and fancifully dressed, arrived from neighbouring villages. They marched to the house where the body lay, and began to sing and dance, singing in the Abor tongue. Branson's interpreter told him all their songs were borrowed from the Abors, with whom they hold daily intercourse. The substance of the song was as follows: "What divinity has taken away our friend? Who are you? Where do you live? In heaven, or on the earth, or under the earth? Who are you? Show yourself. If we had known of your coming we would have speared you." This was first pronounced by the chorister. The whole company then answered it by exclaiming "yes," at the same time waving their huge glittering spears towards heaven in defiance of the evil spirit who was supposed to have occasioned the death. The chorister continues: "We would have cut you in pieces and eaten your flesh." "Yes," responded the warriors, brandishing their *daos*.¹ "If you had apprised us of your coming and asked our permission we would have revered you; but you have secretly taken one of us and now we will curse you." "Yes," responded the warriors. The above was the substance of what they sang, though varied and repeated many times. The noise of music and dancing was continued nearly all night. During the greater part of the following day the same ceremonies were repeated. At the setting of the sun a large company of young women came round the corpse and completely covered it with leaves and flowers, after which it was carried to a small hill near by and burnt amid the festivities of the people.²

The following account published ten years later adds some further details, and a few heightened touches to the vigour of the challenge. The monthly partaking by the dead man of food at the hands of the living is a striking example of primi-

¹ In the account *daos*, obviously the same weapon as *dao*.

² Robinson, "Assam," 1841, p. 397, quoting an account by the Rev. M. Branson, published in a Baptist Missionary magazine of 1839. Dalton, p. 40, citing Robinson rather confusedly, refers this account to some one of the eastern border villages.

tive commensal ritual; the seclusion observed immediately after death already referred to, and the strong taboo protecting the bier are also noteworthy. For three or four days after a death the relatives did not leave the village, neither did other villagers resort to the village where a death had occurred during that period. When a man died after a long illness a platform was raised within his house, on which the body was placed folded in clothes. By night and day the body was watched with great care, and when decomposition began quantities of spirits were thrown over it; and whatever the deceased was in the habit of eating and drinking in his lifetime (such as rice, vegetables, and spirit) was placed once a month on the ground before it.¹ The virtues of the dead were frequently rehearsed; and the heirs and relatives made lamentation for many months after the death. At the expiration of the period of mourning a great feast of liquor, rice, and buffaloes and cows' flesh was prepared, and an immense number of armed Nágá in war dress assembled to partake of it. They commenced the festival by repeating the name of the deceased, singing many kinds of songs, dancing, and cursing the deity or spirit who had slain their comrade. "If to-day we could see you, we would with these swords and spears kill you. Yes, we would eat your flesh! yes, we would drink your blood! yes, we would burn your bones in the fire! you have slain our relatives. Where have you fled to? why did you kill our friend? show yourself now, and we shall see what your strength is. Come quickly,—to-day, and we shall see you with our eyes, and with our swords cut you in pieces, and eat you raw. Let us see how sharp your sword is, and with it we will kill you. Look at our spears, see how sharp they are: with them we will spear you. Whither now art thou fled? than thou, spirit, who destroyest our friends in our presence, we have no greater enemy. Where are you now?—whither hast thou fled?"² With these and similar speeches and songs they clashed their weapons, and danced and eat and drank throughout the night. The next day the body was folded up in a cloth, and placed on a new platform four or five feet high; and all the weapons of the dead, his rice dish, and bamboo for water, everything used by him in his lifetime, was arranged round the bier, which was held sacred; no one dared to touch a single thing thus consecrated. After this

¹ Dr. E. B. Tylor, quoting this account, says: "Nágá tribes of Assam celebrated their funeral feasts month by month, laying food and drink on the graves of the departed." ("Primitive Culture," vol. ii, p. 32.) I cannot find any mention of this practice on the *graves*, the above usage is *before* the final funeral rites.

² The original is quoted verbatim.

ceremony was concluded the people dispersed.¹ In a somewhat *Infra, s.v.* similar account of Angami rites, the men in their Angamis. war dress strike the earth with their weapons; perhaps indicating the under-world nature of the death spirit. The union of the living and the dead in a common feast seems emphasised by the following Luhupa usage, since the single portion placed beneath the dead does not look like any committal of cattle as wealth in the after-world:—on the death Brown, of a Luhupa it was once the custom to make human p. 41. sacrifices; this was not permitted later, under Manipur rule, and instead cattle were sacrificed before the corpse could be buried. The cattle sacrificed were eaten, with the exception of one leg, which was buried under the head of the deceased. From the details of a modern Angami funeral, which will be found in a later chapter, it would seem that various forms of eating together constitute the chief acts of the A. C. R., long ceremonial. On the first day after death a 1891, distribution of meat is made among the relations and p. 240-1. friends of the deceased. The next day, after the burial, friends and relations, and one man of another *khel*, go to the house of the dead, and eat parts of the meat which had been reserved on the previous day, and each member of the deceased's *khel*, in perfect silence, throws a piece of liver out of the house to a distance of some eight paces, these pieces of liver having been cooked by members of another *khel* who are present. On the next day, the second that is after the burial, seventeen portions of cooked rice are tied up in leaves, and these are buried outside the house on the fourth day. On the fifth day the platter and cup of the deceased are hung up in the house, till thirty days have expired, when they are given to a friend of their former owner. About the fortieth day the deceased's family sacrificed a cock, of which the flesh is eaten equally by all. The funeral ceremonies are then complete.² Ample provision was made by the Nágas for the needs of their dead. A portion of the funeral feast was placed in the grave, as we have seen, by the Luhupas; they also buried spears and daos with the body. The North Kachar

¹ "Journal of the Indian Archipelago," vol. ii, 1848, p. 234.

² In a short paper on "The North Kachar Hills," Mr. Damant speaks as though a funeral sacrifice was made to the dead, but I am aware of no other G. H. Damant, explicit mention of such a custom:—"Occasionally a stake may
"Calcutta be seen fixed in the street in front of a house, from which hangs
Review," the skull of a freshly killed metna or buffalo; this is a sign that
vol. lxi. a death has taken place, and the beast has been sacrificed. To
a very rich man three or four buffaloes will be sacrificed, to a very poor man only a pig, while in all cases as many of the neighbours as possible are feasted." Dalton, p. 40, mentions the large number of animals killed at the funeral of a person of consideration.

G. H. Nágás liked, if they could, to get an Angámi dao to
 Damant, be buried with them, and Mr. Damant saw several
 Report, &c. kept for this purpose in different houses; doubtless
 on Tour in a weapon belonging to this powerful warrior tribe
 N. Kachar was held to be peculiarly efficacious in the conflicts
 Hills, 1875. of the after-world. These Nágás also buried salt and a large
 supply of provisions with the dead;¹ the warrior's spear and dao
 Stewart, were buried with him; and to them the custom is
 p. 615. attributed of placing in the grave any article to
 which the dead were specially attached. We have seen in
 an early account that everything used by the dead man in his
 lifetime was left upon the bier. Angámi usage placed on a
 woman's grave her clothes, ornaments and necklaces, weav-
 Jafra, s.s. ing shuttle and spinning stick for cotton, cotton
 Angámis. thread, dhan, grain, and pestle and mortar for clearing
 rice.

A curious custom accompanied the death of a Luhupa which
 in form is similar to the Hindu rite of striking the head to
 Brown, allow the spirit to escape. "On the death of a
 p. 41. warrior, his nearest male relation takes a spear and
 wounds the corpse by a blow with it on the head, so that on his
 arrival in the next world he may be known and received with
 distinctions."

The custom of strewing flowers over the dead and upon the
 grave strikes a note strangely at variance with savage rites
 which seem so consonant with the wild nature of these tribes.
 On the death of an aged Khonbao (presumably some holder of
 office), an elephant and three hundred buffaloes and pigs were
 killed, and a great feast took place. "The usual custom of re-
 viling the deity while singing, and dancing was kept up with
 uncommon fervour." The heads of the slaughtered animals
 "Jour. Ind. were suspended round the platform within a large
 Arch," ii, enclosure; and the body was strewn over with an
 p. 230. abundant supply of all kinds of forest flowers.
 The wild funeral rites witnessed by Mr. Branson, which were
 celebrated for the wife of a chief, concluded, as we have seen,
 by the approach, at sunset, of a large company of young
 women who completely covered the body with leaves and flowers.
 A. C. R., The late Census Report notes that flowers are very
 1891, p. 248. often put up over a Lhota's grave. Stewart,
 writing of the North Kachar Nágás forty years ago, speaks of
 the affection shown in tending newly-made graves; protecting
 fences were at first invariably raised, and flowers were often
 scattered.

¹ G. H. Damant, *Official Diary of Tour in North Kachar Hills, 1875.*

Great variety seems to have obtained as to the manner of disposing of the body. Interment, tree burial, exposure, and (doubtless Hindu) cremation are all recorded. The more eastern Nágás nearly all exposed their dead upon bamboo platforms, leaving the body to decay; the skull was preserved in the bone house to be found in nearly every village. Dalton describes a custom of placing the bones of the dead in miniature houses in the shade of groves carefully planted at the approaches to the village; the bodies were first placed in wooden coffins, like boats, and exposed suspended to trees outside the village till completely dessicated, after which the obsequies took place.¹

The custom of the Aos of the present day is to leave the body on a platform in the cemetery without the village gate. The body, placed in a coffin, is smoked for a period extending from ten days to two months; then the coffin, over which is laid one of the dead man's cloths, is taken out and placed on a bamboo platform in the village cemetery. "On the machán, along with the coffin, are hung a man's eating-plate and drinking cup, while in front in a row are arranged the heads he has taken and close to these his shield and spear are placed." If the body is not smoked, it is placed in the cemetery as soon after death as possible. The cemeteries invariably occupy one side of the main road leading to the village gate. The Ao coffin is a structure of bamboo and thatch, shaped somewhat like a house.

The "naked Nágás" also do not bury the dead, but with them tree burial is in use. After being smoked for ten or twenty days the body is put in a wooden coffin, and placed in the fork of a big tree just outside the village gate. In the case of men of distinction, after the smoking process, the head is removed and placed in an earthen pot; this pot is then neatly thatched over with *toká pák*, and deposited at the foot of the tree in which the coffin containing the body is placed.

Passing to the burial customs, the Nágás of North Kachar were described as burying their dead at the very doors of their houses, in a coffin made of a hollow tree trunk; a large stone was rolled over the top of the grave, and most, if not all, of the village streets were full of these unhewn tombstones. Mr. Damant describes some of the stones erected to the dead which strewed the village road, as exactly resembling an ancient British cromlech

¹ Dalton, p. 40, speaks of the bones being preserved in these little houses, or buried.

on a small scale; they were supported by three or four smaller stones placed as uprights. "The Nagas," he adds, "calculate the greatness of their ancestors by the size of their tombstones. One Naga in showing his grandfather's grave was most proud to tell that it cost more to bring it to its place than any other tombstone in the village."¹ The descendants of those to whom the stones are erected sit there in the evening, and drink their rice-beer. According to Stewart there was no sense of taboo over even a newly-made grave, the survivors delighting to sit on the stones covering the bodies of their friends. The Semás of the present day bury the dead, as a rule, just outside the dead man's house; over the grave are put up his spear, and shield, and the skulls of any cows that may have been killed for the funeral feast. Children dying within ten days of birth are buried inside the house. Women dying in child-birth are buried without any ceremony being observed.

The Luhupa dead were buried in deep graves; all who died of disease were buried inside the village precincts, but those who died in battle, or by wild animals, were buried in one place out of the village. The report of 1854 says of the Rengmas, that they "inter their dead and place the deceased's spear in the grave, and his shield, a few sticks with some eggs and grain on the grave, and the funeral ceremonies conclude with lamentations and feasting." The Lhotas of the present day bury the dead within a pace or two of the front door of the house; after the burial a fire is often kept burning for several days over a man's grave; the skulls of cattle killed for the funeral feast are put up over it.

According to an early account of Nágá funeral ceremonies, sudden death was held to be unfortunate; if illness ended fatally after one or two months, the time was still too short to be "lucky," and the body was instantly removed to a platform four or five feet high in the jungles where it was left to decay.

After-world beliefs.—Of Nágá beliefs concerning the after-world little is known.² Inferences may be drawn from some of the funeral rites, such as the dead man's need of salt, provisions, and efficient arms, and the monthly food put for him during the long interval before the last funeral rites.

The more eastern Nágás are described as believing in a future state in which the present existence is

¹ G. H. Damant, "Calcutta Review," vol. lxi.

² Robinson, "Assam," asserts that the Nágás have some faint notions of the immortality of the soul, but gives no proofs.

continued. The Luhupa idea of a future state was, that after death they went to the west, where there was another world; in this future state they lived and died, the men six times and the women five. After this they were turned into clouds, remaining in that condition. The people killed by a Luhupa became his slaves in the next world.¹ The nature of the life they lead in a future state they could not explain. It is this tribe who, as we have seen, hold that on one night in the year the dead may be seen passing over the distant hills, driving before them slain men and stolen cattle.

To the south-west from the whole of the Semá country parallel and horizontal lines are very plainly to be seen, marking the stratification of the rocks in the east side of the Wokha hill. These rock lines are called Kitilá, or dead man's road, and are said to be the path leading to the village of the dead. A. C. R., Where this village is no man can say, but that it 1891, p. 247. exists all believe.

NOTE.—It may be noted that the late Sir J. Johnstone found no signs of any prevalent snake worship among the Nágás or Manipuri. He says, under heading of the Angámi Nágás, "Naga is a name given by the inhabitants, of the plains, and in the Assamese language means 'naked.' As some of the Naga tribes are seen habitually in that state, the name was arbitrarily applied to them all. It is the greatest mistake to connect them with the snake worshippers, Sir J. Johnstone, "My Experiences in Manipur," p. 33. "Nag Bungsees" of India. Neither Nagas or Manipuris, or any tribes on the eastern frontier, are addicted to this worship, or have any traditions connected with it, and any snake, cobra (Nag) or otherwise, would receive small mercy at their hands. The slightest personal acquaintance with the Assamese and their language, would have dispelled this myth for ever." In a letter received shortly before his death, he wrote to me: "It may interest you to hear that I totally disbelieve in any trace of snake worship in Assam or Manipur except in possible cases of its being recently imported—I never saw a McCulloch, trace of it." McCulloch, writing in 1859, gives two instances pp. 17 & 32. of a snake god among the Manipuri.

I regret that two papers on the Nágá tribes read before the Institute, by Colonel Woodthorpe in 1881, and published in the Journal of the Institute, 1882; and a paper published by Captain Butler under the title of "Rough Notes on the Angámi Nágás," in the Journal of the Asiatic Society of Bengal, 1875, have come to my notice too late for the above pages to have the benefit of information contained in them.

(To be continued.)

¹ Robinson says that on the death of a Nagá warrior all the scalps taken by him during his lifetime were burnt with his remains. This would seem to refer to villages that had come under Hindu influence; the intention may have been to let the dead man be accompanied by these other dead.

ANTHROPOLOGICAL MISCELLANEA AND NEW BOOKS.

Readers of the Journal are invited to communicate any new facts of especial interest which come under their notice. Short abstracts of, or extracts from letters will be published at the discretion of the Editor. Letters should be marked "Miscellanea" and addressed to The Secretary, 3, Hanover Square, W.

A Vocabulary of various Dialects used in New Georgia, Solomon Islands. Compiled by Lieutenants B. T. Somerville and S. C. Weigall, R.N., *H.M.S. Penguin*, 1893-4-5, Hydrographic Department, Admiralty, 1896. Fcap. 36 pages.

This work makes a valuable addition to our knowledge of the northern dialects of the Solomon Islands, the only previously existing data for the languages of New Georgia being short vocabularies in Dr. Codrington's "Melanesian Languages," and in Mr. C. M. Woodford's "Naturalist among the Head Hunters." Of the nine dialects of the island, four are here illustrated. These are the Rubiana or Roviahana of the south-west lagoon; the Marovo, used by the coast natives everywhere, except on Rendova Island; the Mbariki of the bush natives in the Mbariki peninsula; and the Hoava of the bush natives on the north-east side of the Kusage hills.

As usual with languages in this part of the Solomon Islands, the vocabularies show many differences, even in common words, and there is not much agreement with languages in the south-eastern portion of the Solomon group. There are, no doubt, some agreements with even such a characteristically Melanesian language as that of Florida, but they are not very prominent, and in no way suggest a connection between the languages. Neither do the exceptional words in New Georgia suggest a connection with such languages as the Savo or the Ala of Treasury Island, though there are a few agreements with the Simbo of Eddystone Island.

The variation of language in the Northern Solomon Islands may be illustrated by the numerals.

	NEW GEORGIA.				SAVO.	TREASURY Is. Alu.
	Marovo.	Rubiana	Mbariki.	Hoava.		
1	<i>meka</i> ...	<i>tasa, keke</i> ...	<i>meka</i> ...	<i>keke</i> ...	<i>ela</i> ...	<i>kala, ilia.</i>
2	<i>karua</i> ...	<i>tarua</i> ...	<i>karua</i> ...	<i>karua</i> ...	<i>edo</i> ...	<i>elua.</i>
3	<i>hike</i> ...	<i>ata</i> ...	<i>hike</i> ...	<i>hike</i> ...	<i>igiva</i> ...	<i>epiva.</i>
4	<i>mandi</i> ...	<i>maadi</i> ...	<i>mbato</i> ...	<i>mandi</i> ...	<i>agara</i> ...	<i>efate.</i>
5	<i>lima</i> ...	<i>lima</i> ...	<i>lima</i> ...	<i>lima</i> ...	<i>ara</i> ...	<i>lima.</i>
6	<i>onono</i> ...	<i>onomo</i> ...	<i>onono</i> ...	<i>onono</i> ...	<i>pogoa</i> ...	<i>onomo.</i>
7	<i>njuapa</i> ...	<i>njuapa</i> ...	<i>njuapa</i> ...	<i>njuapa</i> ...	<i>pogoro</i> ...	<i>fito.</i>
8	<i>ceahu</i> ...	<i>ceahu</i> ...	<i>cehu</i> ...	<i>ceahu</i> ...	<i>kui</i> ...	<i>alu.</i>
9	<i>sia</i> ...	<i>sia</i> ...	<i>sia</i> ...	<i>sia</i> ...	<i>kuava</i> ...	<i>ulia.</i>
10	<i>nangura</i> ...	<i>manege</i> ...	<i>nangura</i> ...	<i>nangura</i> ...	<i>tale</i> ...	<i>lafula.</i>

	EDDYSTONE Is.	Buka.	MALANTA.	YSABEL.		Florida.
	Simbo.		Saa.	Bagoth.	Nggao.	
1	kami	ka-tua	ta	sikei, keha	kale, tasa	sakai, keha.
2	karu	ka-tuel	rua	raa	palu	rua.
3	kue	to-piaa	ola	tola	tola	tola.
4	mauti	to-kata	kai	vati	fati	vati.
5	lima	to-lima	lime	lima	lima	lima.
6	wanama	to-nam	oso	oso	famso	ono.
7	witu	to-hid	lia	citu	fajitu	citu.
8	kala	to-mal	wala	alu	seha	kala.
9	sang	to-si	sive	hia	fahia	kina.
10	manoa	maloto	tangakulu	salaga	faboto	hangavulu.

In this table the Saa, Bugotu, and Florida may be taken to represent the usual Melanesian forms.

The pronouns vary in a similar way.

Marovo, *raka*; Rubiana and Hoava, *arao* = I. Marovo and Hoava, *hoi*; Rubiana, *agoi*; Mbariki, *ho* = You. Marovo and Rubiana, *ia* = He. Marovo, *Kami* = Ye.

The possessive agrees with the Florida preposition *ta*, and has the usual suffixed pronouns, followed by the personal pronoun, as in Marovo *ta-ngu-raka*, my; *ta-m-hoi*, thy, your; *ta-n-ia*, his.

The vocabulary is followed by several pages of phrases and sentences, which will give some idea of the construction of the language, and be of use to the explorer or missionary who may have occasion to study the language more thoroughly.

This is not the first illustration of Melanesian languages for which we are indebted to officers of the Royal Navy surveying in the Pacific Ocean. The example set by Lieutenants Somerville and Weigall is one which, if more generally followed, could not fail to be of great service to Anthropological and Linguistic Science.

S. H. RAY.

A Paumotuan Dictionary with Polynesian Comparatives.

By Edward Tregear. Wellington, New Zealand. 1895. 8vo. 160 pages.

In this work Mr. Tregear gives a very interesting collection of words in the language of the Dangerous or Low Archipelago, eastward of Tahiti in Central Polynesia. The interest of this language consists in the very remarkable differences between the vocabulary and that of other Polynesian languages, although the Mangarevan of the adjacent Gambia group differs very little from such typical languages as Maori or Tahitian. By printing opposite the Paumotuan words, comparatives from the other dialects, and leaving blank spaces opposite to those for which he could find no equivalents, Mr. Tregear has made it easy for the student to distinguish the non-Polynesian element in the language.

The exceptional words may be roughly divided into two classes, viz.: those which are used to a limited extent in neighbouring languages, though they differ from the usual Polynesian, and those which have no known Polynesian equivalents. To the former belong such words as *noki*, eye, the Maori *kanohi*; *teke*, flower or fruit, Marquesan, *teke*, sprout; *veku*, hair, Tahitian *veu*. To the latter belong such words as *rotika*, fire, *heka*, road, *pepenu*, head, *makoi*, man. So far as can be ascertained this latter class of words show little agreement with any current in other parts of Oceania. The word *kakai*, fable, is the Banks' Island *kakae*; *kai*, mussel, may be the Fiji *kai*. There may be a few agreements with uncommon words in other parts, as in the words *komo*, Ysabel *kumi*, water; *ngora*, Ysabel *gollo*, New Georgia, *nohara*, cocoanut; *ngorengore*, Savu, *korakora*, New Georgia, *korekore*, peel; *kuokuo*, Motu New Guinea, *kurokuro*, white; *neki*, New Georgia, *nika*, Santa Cruz, *guie*, fire; *vakivaki*, white, *kavake*, moon, Ysabel, *vega*, white. It is of course impossible to form any theory as to the origin of the strange element in the Paumotuan language from such isolated coincidences as these, but they illustrate a fact which is of some importance when dealing philologically with the question whether the present occupants of Polynesia and Melanesia are the original inhabitants. It is remarkable that wherever in a Melanesian language words are found which differ from those in general use throughout Oceania, these words very rarely agree with the exceptional words in another language. Take for example the exceptional languages of Santa Cruz and Nifilole, in Central Melanesia, Savu and Alu in the Solomon Islands, and the words for sun, moon, bird, and egg. We have the following forms:—

	Sun.	Moon.	Bird.	Egg.
Santa Cruz	<i>nanga</i>	<i>tema</i>	<i>kio</i>	<i>ti</i>
Nifilole	<i>le</i>	<i>pe</i>	<i>degulno</i>	<i>unolie</i>
Savu	<i>kuli</i>	<i>kuge</i>	<i>koru</i>	<i>si</i>
Alu	<i>felo</i>	<i>ilala</i>	<i>maraka</i>	<i>crun</i>
Melanesian	<i>alo</i>	<i>vula</i>	<i>mau</i>	<i>tolis</i>

It will be observed that with the exception of the words *maruka* and *nuolie*, which may be the Melanesian *mann* and *toliv*, these are different from the usual words, and also have no likeness to one another. Such facts suggest the probability of the Oceanic Islands having once been inhabited by people speaking various distinct languages, and that they have since been colonized by a race speaking dialects of a common language, the simple structure of which has obliterated those with more complex forms.

It is worth notice that in New Guinea, where languages are found very different from the Melanesian, these also show little likeness to one another in vocabulary, and in places where they have borrowed Melanesian words or grammatical forms, the Melanesian element is the only common feature. It is therefore probable that in the non-Melanesian languages of New Guinea we have remaining languages of similar structure to those which were formerly more widely spread in the Oceanic region; and that there are still found in varying quantity among the Melanesian and Polynesian dialects remains of the dissimilar vocabularies of former inhabitants of the islands. Viewed thus the Paumotu is the Polynesian dialect which has preserved most of the archaic element, and thus the labour which Mr. Tregear has expended upon this dictionary cannot fail to be of value to the student of Oceanic languages.

S. H. RAY.

The Chin Hills: A History of the People, our dealings with them, their customs and manners, and a Gazetteer of their country, by Bertram S. Carey, C.I.E., Assistant Commissioner, Burma, and H. N. Tuck, Extra Assistant Commissioner. Rangoon. Printed by the Superintendent, Government Printing, Burma, 1896. Vol. i. 8vo. 236 pages.

This book calls to mind Mr. Read's resolution passed at the British Association this year, and makes one reflect how much might be done for Ethnology by the British Empire if the intelligent interest of its administrators in the peoples they govern were systematically organised. For here we have a very admirable piece of work carried out, apparently with the support of the Chief Commissioner of Burma, by two political officers in the hill country to the north-west of that great Dependency. The first part of the book deals principally with the history of our political relations with the country. But in the second part, devoted to "Manners and Customs," the authors give a very circumstantial account of the Chin tribes in their habit as they live, so much so that with the additional aid of photo etchings of quite exceptional ethnographic merit, the reader feels on laying the volume down that the Chin Hills have become a familiar country. We are presented with a picture of barbarous society, one side of which finds a parallel in the old feudalism of Europe, but a feudalism devoid of chivalry, in which the right of private

war means the right of treacherously raiding one's neighbour, and in which the murder of a defenceless foe is a doughty feat of arms. Of the various tribes of the Chins, all allied to the Kuki family, the Siyins appear to bear the worst character for treachery in a land where "all are drunkards, liars and thieves." The practice of headhunting, the result of universal blood feuds, was especially prevalent among them. Here it may be noted that the Chins do not, like the Dyaks, keep the skulls of their enemies in their houses, but place them on poles outside, fearing the malign influence of the indwelling spirits: trophies of animal skulls are, on the contrary, to be found in most verandahs. Of the other tribes, the Hakas, Tashons, Shunklas and Soktes, the first are noted for avarice, the second for political sense and diplomatic cunning.

Good illustrations of Chin houses and villages are given, and there is a plan of a typical house at p. 176. Most Chins have both a town and a country house. The methods pursued in hunting and agriculture are carefully described: neither in tilling nor transport are cattle employed. Burial and marriage customs differ slightly in the different tribes. The Chins resemble the Dyaks and other Eastern peoples in their attention to omens and in the practice of divination by examining the liver of animals.

Their beliefs are those of all races at an early stage of culture: the propitiation of spirits forms a principal part of their religion. Spirits are powerless for good, but active in evil; disease is their work, or that of wizards through whose agency foreign bodies are introduced into the system, taking the form of lizards, rats, balls of hair or string.

The chapters on "Civil and Criminal Laws"; the "Position of the Chiefs in regard to the people, slaves and slavery"; and on "Raids and Methods of Warfare," offer material of much interest. The universal habit of drunkenness is a modifying factor in the execution of customary law. A point worthy of remark with relation to civil law is that among the Siyins and Soktes the youngest son alone succeeds to the paternal estate, while amongst other tribes the eldest does so; this is not the only point in which the customs of the North and South Chin Hills materially differ.

There is much that is ethnographically of interest in this volume. Objects worthy of mention are the brass hair-pins or skewers worn in the hair by the Hakas, used with deadly effect as weapons in drunken quarrels; the women's water-pipes, used to prepare "nicotine water" for the men; a kind of "knuckle-duster" used as a concealed weapon by the Southern Chins, and producing scars on the face which are considered as glorious as the scars of a German student; the heavy brass or iron girdle 3-10 lbs. in weight worn by women to keep the cotton skirt in position; the tribal tartans; and the various weapons of offence and defence.

There is unfortunately no map on a large scale, but the twenty-five full-page permanent illustrations, from photographs

by Surgeon-Major Newland and Sergeant Sinclair, of the Queen's Own Sappers and Miners, have already been noticed as being of particular excellence. The grouping and general treatment are admirable. Ethnologists will look forward with interest to a continuation of the fruitful labours of Messrs. Carey and Tuck.

The Antichrist Legend: A chapter in Christian and Jewish Folk Lore. Englished from the German of W. Bousset, with a Prologue on the Babylonian Dragon Myth, by A. H. Keane. Small 8vo. London: Hutchinson and Co. 1896.

Bousset's book is a guide to Early Christian and Mediæval Apocalyptic Literature. But Bousset himself, though aware that the Antichrist Legend might be traced back to a very early date in the history of humanity, did not carry it further than about the dawn of the New Era. The investigations of Gunkel took it to Babylon; but there yet remained a lacuna to fill, and to this we owe Mr. Keane's interesting and suggestive Prologue. The derivation of Antichrist from Tiamat or Tiawat, "The Dragon of Chaos" of the Akkadians, leads on to a yet more ancient and material prototype among the Saurians of the Lower Mesopotamian Plains such as they were known and encountered by primitive man. "We now begin to understand the peculiar form assumed by the Semitic account of the Creation, which is itself based on earlier Akkadian traditions."

The Antichrist Legend has therefore a very long pedigree. "It carries us back to the primeval conditions under which it grew up and crystallized into later national mythologies. These conditions were here, as elsewhere, the circumstances incident to the struggle of primitive man with his surroundings. Thus also the weird story of the Antichrist Legend is completed in its three successive phases—from the New Era to Mediæval times, a millenium (Bousset); from Babylonia to the New Era, four millenniums (Gunkel); from the Stone Ages to Babylonia, as here suggested, many millenniums." p. xxiv.

The whole subject provides an instructive example of the life-history of a myth, and Mr. Keane is to be congratulated on presenting it to the English public in such an accessible and attractive form.

"The American Anthropologist." Vol. ix. Nos. 6-7. (No. 6.) Introduction of the Iron Age into America, by Otis T. Mason. (No. 7.) Classification and Development of Primitive Implements, by Joseph D. McGuire. The Ute Bear Dance (illustrated), by Verner Z. Reed. John Gregory Bourke—obituary (with frontispiece), by F. W. Hodge.

"The American Journal of Psychology." Vol. vii. No. 4. On Muscular Memory, Theodate L. Smith. A Preliminary Study of some of the Motor Phenomena of Mental Effect, by Ernest H. Lindley. Light Intensity and Depth Perception, by T. R. Robinson. Attention, Experimental and Critical, by Frank Drew.

"Journal of Mental Science." Vol. xlii. Nos. 142-143. (No. 142.) Torquato Tasso and his Biographers, by W. W. Ireland. Statistics dealing with Hereditary Insanity, based on upwards of a thousand cases occurring in the Essex County Asylum, by John Turner. Certain Conditions of the Circulatory System in the Insane, by Samuel Edgerley. Dangerous Lunatics charged with crime. Note on operation of 15th Section of 25 and 26 Vict., cap. 54 (Lunacy Statutes, Scotland), by John Carswell. On Mental Fatigue and Recovery, by W. H. R. Rivers. Remarks on the Nursing Staff in Asylums, by P. W. MacDonald. The Special Reports and Certificates required by Section 38 of the Lunacy Act of 1890, and Section 7 of the Act for 1891, by R. S. Stewart. Atypical and Unusual Brain-Forms, especially in Relation to Mental Status: A Study on Brain Surface Morphology, by W. Julius Mickle. (No. 143.) Presidential Address, by W. J. Mickle. The Significance of Weismann's Doctrine in Insanity, by G. R. Wilson. Heredity in Mental Disease, by J. F. Briscoe. The Increase of General Paralysis in England and Wales: its Causation and Significance, by R. S. Stewart. The Hospital Treatment of the Insane in Asylums, by J. Macpherson. Note on Female Nursing in an Asylum Male Sick Room, by A. R. Turnbull. The Cairo Asylum: Dr. Warnock on Hasheesh Insanity, by T. S. Clouston. Torquato Tasso and his Biographers, by W. W. Ireland.

"The American Antiquarian." Vol. xviii. Nos. 3-4. (No. 3.) Archaeological Studies among the Ancient Cities of Mexico, by W. H. Holmes. Data of Michigan Archaeology, by H. I. Smith. East India Folk Lore. Adventures of the Brahmin Kala-Sarma, by T. W. Knox. Folk Lore on Stone, by Countess E. M. Cesaresco. Egyptological Notes, by W. C. Winslow. Oriental Notes. Notes on European Archaeology, by D. G. Brinton. Astronomical Symbols in Asia and America, by S. D. Peet. Ethnographic Notes, by A. S. Gatschet. (No. 4.) Notes on Oceania, by J. Fraser. Some North-west Burial Customs, by J. Wickersham. Prehistoric Remains in St. Paul, Minnesota, by T. H. Lewis. The Psychologic Development of Medicine, by J. H. McCormick. Early American Explorations among the Pueblos, by S. D. Peet. Iroquoian Philology, by H. Hale. Egyptological Notes. The Magnificence of Prehistoric America. Archaeological Notes.

"Transactions and Proceedings of the Japan Society." Vol. iii. Volcanic and Earthquake Phenomena of Japan, by Prof. J. Milne. Notes on the History of Lacquer, by E. Hart. A Note on the Form of Japanese Temple Roofs; "A Note on the Key Pattern in Japan"; "The Japanese Musical Scale," by F. T. Piggott. Aspects of Social Life in Modern Japan, by the Ven. Archdeacon A. C. Shaw. "Court and Society in Tôkyô," by F. H. Balfour.

THE JOURNAL
OF THE
ANTHROPOLOGICAL INSTITUTE
OF
GREAT BRITAIN AND IRELAND.

NOVEMBER 10TH, 1896.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The resignations of Messrs. J. COLES, J. CLEGHORN, R. BANGAY, I. J. SMITH, and the deaths of Sir J. PRESTWICH, and Messrs. A. PULFORD and Dr. J. H. LANGDON DOWNS, were announced.

Mr. P. L. SCLATER, F.R.S., exhibited a Mancala Board from Nyasa-land, and read the following extract from a letter from Mr. Alfred Sharpe, H.B.M. Consul and Acting Commissioner, addressed to him, dated Zomba, August 7th, 1896.

"Another thing I am sending you which appears to me to be of great interest, is an African-made wooden board with cups in it for playing that African draughts game, which is at any rate 6,000 years old, if not more. This game is played with small pebbles. They put three in each hole and then move them and shift them about in a way which no white man can understand. I was very much struck in Cairo by seeing in the Museum there an almost similar draughts board made in alabaster which dated from, I think, the 2nd or 3rd dynasty. I also noticed in Egypt the children in the road playing the

same game, their board being little holes scratched in the ground. Here, in any native village, one may see the same game being played in a similar manner, that is, the holes being scratched in the flat ground.

"The African of course never changes, and it seems to me a very remarkable thing that this game (we know) has been played for five or six thousand years in Africa, from Cairo to the Cape. Perhaps you may think this native-made board of interest for the British Museum. Certainly, if it were put alongside one of the stone ones found in Egypt many thousand years ago, it would be rather a striking sight, I think."

Mr. C. H. READ exhibited a wooden mask from the North West coast of America, and Mr. H. BALFOUR various native Indian preparations of hemp for consumption.

The following papers were read :—

"On a Remarkable Bow and Arrows found in Egypt, believed to be of Assyrian Origin." By Mr. H. BALFOUR (with Exhibition).

"Life History of an Aghori Fakir, with Exhibition of his and other Drinking Vessels made of Human Skulls, and notes upon the same." By Mr. H. BALFOUR.

On a REMARKABLE ANCIENT BOW and ARROWS believed to be of ASSYRIAN ORIGIN. By HENRY BALFOUR, M.A.

[WITH PLATES IX AND X.]

I WAS recently enabled, through the kindness of Professor W. Flinders Petrie, to whom I am greatly indebted, to obtain an ancient archer's equipment of very exceptional interest. The bow is, I believe, unique, although one somewhat similar is in the Berlin Museum, and has been described by Dr. v. Luschan,¹ and also by Mr. C. J. Longman.² This latter specimen, however, while of great interest and importance, and obviously nearly allied to the one which I am about to describe, is unfortunately very imperfect, and much of its structure necessarily remains uncertain. I shall refer again to this specimen.

The bow, which came to me through Professor Petrie, was

¹ "Proc. Berlin Anthropol. Soc.," May, 1893.

² "Archery," Badminton Series, 1894, p. 63, etc., and in "Journ. Anthropol. Inst.," xxiv, Pl. X.

found under the following circumstances. A tomb of the XXVI dynasty was excavated at Thebes in Egypt, under the direction, I understand, of Mr. Butros, the Italian Consul. Amongst other things he found a bow, or rather two pieces of one, of the usual ancient Egyptian shape (Fig. 5), that is to say, a single-stave wooden bow, stout towards the centre, and tapering towards the ends, which curve forward rather abruptly; it is one of a type which is commonly to be seen in museums and collections of Egyptian antiquities, and differs but little from many modern African bows. This specimen I have, and exhibit it together with the arrows found with it, which are also of typical Egyptian form. Shortly after the finding of this bow one of the men, who had been employed by Mr. Butros in his excavations, produced a second bow with several arrows, which he said were found in the same tomb as the other bow and arrows. Both bows with their arrows came into the hands of a friend of Mr. Petrie's, and through the latter's kind mediation I was able to purchase them.

The bow which was found by the workman is in every way a remarkable specimen (Fig. 1). Although it was found in an Egyptian tomb, it is clearly not of indigenous origin. It is quite unlike the characteristic type of Egyptian bow. Instead of having been cut from a single piece of wood, it is of *composite* structure, an elaborate combination of different materials, one of which, at any rate, is foreign to the country in which the bow was found. Everything, in fact, points to this bow having come into Egypt from a more northerly region, whence it might possibly have been brought as a trophy of war, by an invading force, or by foreign mercenaries in the Egyptian service.

Description.—This bow is of very fine make, the work of a highly skilled bowyer, and it is beautifully finished. Although sufficiently well preserved to show its shape and structure accurately—a remarkable case of preservation from decay, when we consider the materials of which it is built up—it has been broken in two at the centre across the handle, and has, moreover, been subjected to the ravages of white ants, which have eaten away portions at various points. Nor is this altogether to be deplored, for, while the artistic perfection and intrinsic value of the bow as a complete specimen is sadly impaired, the same cause has rendered easy the examination of the detailed structure of the bow, and has exposed the various materials which have been used in its composition. In fact, the cutting of a single transverse section across one of the limbs is all that has been necessary in the way of dissection.

In length the bow is about 57½ inches, measured along the "belly" and following the curves. Measured in a straight line

from tip to tip, the length is about 53 inches. It is, in fact, markedly reflexed, *παλίντρονος*, though to nothing like the same extent as many modern Asiatic composite bows. From the centre to the extremities of the "limbs" it tapers very gradually, the two ends being of slender proportions, the extremities curving backward rather abruptly. Near the centre of one of the "limbs" the girth measures a little less than 3 inches.

In the days when it was still new and ready for use, nothing of its structure could be seen, as it was completely enveloped in an external coating of *birch-bark* (Figs. 2 and 3), as is so frequently the case with the modern bows of North India and Persia; the greater part of this bark layer remains intact.

The materials used in the construction of this bow are:—

1. wood (two kinds); 2. black horn; 3. sinews of animals; 4. birch-bark; 5. glue. Their positions are made clear in the diagram.

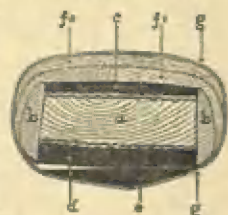
The central core (*a*) or "backbone," consists of a piece of wood, tapering towards the ends, which runs the whole length of the bow, and is flattened oblong in cross section. The wood is not very hard, but is "stringy" with a strongly marked grain, and is brownish-yellow in colour. The surfaces are roughly scored with grooves to give a hold to the glue. Against the edges of this core are glued side-strips (*b b*) of a harder brownish-red wood, with flattened inner and rounded outer surfaces. These strips also run the whole length of the bow, and are wider than the thickness of the central core, and, by thus overlapping its edges, make with it a kind of shallow, wide channel along each face. Along each of these channels lies a wide strip of dense black horn (*c* and *d*), probably of some kind of buffalo, extending to the extremities of the limbs. These strips exactly fill the channels, the strip along the back (*c*) being thinner than that along the belly (*d*), corresponding with the shallower channel. The inner faces of the horn strips are scored with slight grooves, in the same manner as are the central wooden core and side strips, to which they are firmly glued. Overlying the thicker horn strip is a second strip of the same material (*e*), and of nearly equal width, rather more than $\frac{1}{10}$ -inch thick at the centre, and bevelled away to nothing at the edges. An obtuse angle is formed on the outside of this strip (as seen in section), and this produces a kind of low ridge along the belly of the bow in the central line (seen in Fig. 2). It is not to be supposed that horn could be obtained of sufficient length to run the whole length of the bow, so it is safe to suppose that the horn strips are in *pairs*, meeting at or near the centre, though without dissection their meeting point is not visible.

The wood on the other hand runs right through the handle, and so far as can be seen the central core runs in a single piece from end to end.

Overlying the thinner horn strip (*c*) which occupies the shallower channel along the back of the central core,¹ is a thick mass of longitudinally disposed sinews, taken probably from the neck or back of some ruminant, which have been very carefully prepared, and form a very homogeneous and dense layer, or rather layers, for the mass is built up of two layers (*f*¹ and *f*²) of sinews, possibly more than two. The thickness of the mass is nearly $\frac{1}{16}$ -inch near the centre of the bow, becoming reduced towards the ends, as is the case with the horn strips. This sinew "backing" is lapped round the edges of the bow, and encloses the two side strips of wood.

Near the ends of the bow sinews are wound transversely round the whole, so as to bind the parts firmly together, and enable them to withstand the great strain at these points.

Such then is the complex structure of this remarkable bow. Overlying the whole is the layer of birch-bark (*g*), of a rich brown-red colour, with very smooth and glossy, almost satiny, surface. It has been laid on in small rectangular pieces, each wound transversely round (not diagonally, as is so usual with modern Asiatic bows) until one edge meets and just overlaps the other. The adjacent pieces of bark join one another so as to leave no space between, and in this way they together form a continuous, weatherproof sheath from end to end, at the same time protecting the delicate structure of the bow, and hiding its complexity from view.



This bow differs in several respects from the ancient composite bow in the Berlin Museum, described by Dr. von Luschan. It is rather larger—53 inches, as against 45 inches, measured across the curve, and 57 $\frac{1}{2}$ inches as against 48 $\frac{1}{2}$, measured along the curve. It is somewhat more reflexed. The shape, as seen in section, differs, being in the present bow inclined towards a pentagonal form, with the angles well rounded off, while in the Berlin bow the section at the centre of the handle is nearly

¹ The function of the horn strip (*c*), interposed between the wooden core and the mass of sinews, is not clear. Horn, as being compressible, is an excellent substance for the *belly* of a bow, which is subjected to a *crushing* stress, while the elastic sinews along the back are well adapted to resist the *tercile* strain thrown upon that part of the bow. The horn seems out of place on the back. At any rate it is most unusual to find horn in this position. It is the only instance of the kind which I have come across in the examination of scores of modern composite bows from various countries.

circular, and at about one-third of the distance along the limbs it is plano-convex, approaching the semi-circular. The disposition of the strips of wood forming the main portion of the bow, differs markedly in the two specimens, as may at once be seen on comparing Dr. von Luschan's sketches (or the plate illustrating Mr. Longman's paper) with the illustrations to this paper. A single deep, narrow, central groove runs along the whole length of the Berlin bow, sunk right through to the sinew mass, which forms the back of the bow. This groove of course was originally filled either with wood or horn, but in what manner, or in what proportion, cannot be ascertained, as the whole groove is now empty, and no clue to the nature of the substance or substances which once filled it, remains. The presence of horn as an important feature in the structure of the bow which I have described, lends probability, almost certainty, to the idea that this material, either partly, or entirely, filled the groove in the Berlin bow. This is rendered the more likely from the fact of the horn in my specimen having suffered severely from the white ants, whereas the wood is almost intact. The disappearance of the horn in the Berlin bow may perhaps be accounted for in the same way.

Although there are marked differences between these two ancient bows, there still can be little question as to their having both come originally from the same, or very nearly the same extra-Egyptian region. They are both utterly un-Egyptian in character; in their general composite structure, and in the fact of their being decidedly reflexed, they resemble one another, their differences being rather in matters of detail. Traces of what seems to have been a covering of birch-bark are to be seen in the Berlin bow, and in my specimen this bark envelope is beautifully preserved. Needless to say that *birch-bark* was a substance known to the Egyptians only as introduced from a more northern region. As viewed in profile, there is a striking resemblance between these two bows, in the gentle curves, and in the way in which the handle is set backward.

As we may with practical certainty assume that these bows were of foreign introduction into Egypt, it remains for us to ascertain as far as possible their exact *provenance*. The possibly Hittite or Assyrian origin of the Berlin bow has already been speculated upon by Dr. von Luschan and Mr. Longman, who draw attention to the resemblance borne by that bow to those represented in Hittite and Assyrian sculptures. Von Luschan suggests that this bow had been introduced into Egypt either by foreign mercenaries or as a spoil of war. The tomb in which it was found at Thebes has been referred by experts to the time of Ramesu II (XIX dynasty), or, according to Mr. Petrie, say from about 1275-1208 B.C.

Now there are strong reasons for supporting the theory of an Assyrian origin for the bow of the XXVI dynasty which I have described. It not only resembles closely the better representations of bows in Assyrian sculpture, in shape and in the curve assumed when drawn, and in the way in which the ends curve over backwards, but the date of the tomb in which it is said to have been discovered corresponds with the end of the period of the Assyrian occupancy of Egypt. Mr. Petrie informs me that the Assyrian conquest in the XXV dynasty was about 672 B.C., and lasted till the rise of the XXVI dynasty, which extended from about 664-525 B.C.

During their invasions and occupancy of Egypt, Assyrian weapons must necessarily have been numerous in the land, and it would be indeed remarkable if some should not have been preserved, even after the evacuation of the country by the invaders.¹ Why they came in some cases to be deposited in the native tombs, in company, as in the present instance, with other weapons of purely indigenous character, is uncertain, though this is not a matter of paramount importance. Such bows may have been valued trophies, or have been acquired in a variety of ways, and, in any case, their complex and beautiful structure must have favourably impressed a bow-using people like the Egyptians, who would have welcomed such weapons as interesting possessions, and may even in some instances have condescended to lay aside the native African single-stave bow, for the newly introduced and efficient composite bow. Whatever the reason of their having been deposited in Egyptian tombs may be, we must feel grateful for it, since such very perishable weapons probably owe their preservation to their careful interment.

If further evidence is required to prove an Assyrian origin for this bow, such is, I venture to think, supplied by the arrows which were found with it. I mentioned that with each of the bows found in the XXVI dynasty tomb, were several of the arrows which belonged to them. Just as the composite and alien bow differs from the characteristically Egyptian bow found in the same tomb, so do the arrows found with the former differ from those found with the latter. The arrows belonging to the Egyptian wooden bow are themselves in every way characteristically Egyptian in type, as is clear from the numerous examples preserved in museums and collections. They consist (Fig. 6) of a fairly stout shaft of reed, with fore-shaft of wood tanged into it. To prevent splitting, the socket is whipped with fibres (possibly sinews), which are blackened

¹ Mr. Petrie, during his excavations this year, found a helmet of Assyrian type, together with a number of iron tools of entirely non-Egyptian character.

with a kind of bitumen. In the complete specimens the foreshaft is furnished with a head of chert (Figs. 6, 7), with wide transverse cutting edge ("chisel-ended" so-called), set in a composition. Arrows fitted with heads of this shape are frequently shown in ancient Egyptian representations of archery, and appear to have been much favoured, being, no doubt, adapted for causing great laceration and hæmorrhage without deep penetration. The nock at the butt end of the shaft is, it is important to notice, of a very simple and characteristic kind (Fig. 8), cut deeply in the reed end itself just beyond a node. There were three feathers (half feathers set edgewise), apparently about $2\frac{1}{2}$ inches to $2\frac{3}{4}$ inches long; the lines of glue which fixed them are very apparent in some of the arrows. Some of the arrows are clumsier and more roughly finished than the others, and seem to have been the work of another maker. The wings of the nocks in one set are narrow and pointed, in the other set broad and rounded (Figs. 8-9).

Turning to the "Assyrian" arrows, well-marked differences are seen. On the whole, these arrows are of finer make than the Egyptian set. As in the latter, the "Assyrian" arrows are composed of foreshaft and shaft (Fig. 10). The shafts are cut from more slender reeds than in the others, and vary from $21\frac{1}{2}$ inches to $22\frac{1}{2}$ inches in length. The foreshafts vary from $10\frac{1}{4}$ inches to $11\frac{3}{4}$ inches in length, and are carefully finished and smoothed; they are sharpened at the tips. Some are slightly tapered, others cylindrical almost to the tip, others again are slightly "barrelled." They are very neatly tanged into their shafts, the sockets having been whipped round with fine sinews (this binding has mostly perished, but its former presence is still manifest). Instead of the nock being cut in the reed end, a piece of hard wood, or horn in some cases, has been tanged into the butt (Fig. 11), and the nock is cut in this, a manifest improvement upon the Egyptian nock, which must always have been liable to split. Three of the arrows have this hard-wood plug completely preserved; in two it projects $\frac{1}{2}$ inch beyond the reed end, in the other barely over $\frac{1}{4}$ inch. All the arrows were furnished with it, but only traces remain in most, as, being apparently of horn, they have proved more perishable. The feathers (whether two or three in number, I am unable to say) were about 4 inches long, and set edgewise on the shafts, and were glued and bound with sinews. Traces of the feathers themselves remain on some of the arrows.

A reference to the Assyrian bas-reliefs in the British Museum, of the time of Assur-nasir-pal, c. 880 B.C., on which the arrows of the period are very clearly represented—shows at once striking resemblances to the arrows just described. The

presence of the nock-bearing hard plug of wood or horn is well indicated in many of the representations (Figs. 12, 13, 14). The long feathering is another kindred feature. The arrows shown in the sculptures have, it is true, bronze blades, mostly of leaf or lozenge shape, fitted to them (Figs. 15, 16), but even this characteristic is not altogether wanting in the present set of arrows. Together with those already described, and with the composite bow, was found a short wooden foreshaft, 5 inches long, tanged to fit a reed shaft, and with deep, narrow socket at the end, into which is fitted, by means of a long, narrow tang, a leaf-shaped blade of bronze (Fig. 17). The blade is $1\frac{1}{2}$ inches by $\frac{1}{8}$ -inch, and is slightly "ogee" in section. The tang measures $1\frac{3}{16}$ inches long.

It may be fairly admitted that the evidence afforded by the arrows is much in favour of the Assyrian origin of this archer's outfit.

To sum up briefly, the evidence in favour of the theory of the Assyrian nationality of this bow with its arrows rests upon the following facts:—

1. The form, composite structure and materials of the bow are entirely non-Egyptian in character, and point clearly to a more northern origin. The shape corresponds with that of many bows represented in Assyrian sculpture.
2. The arrows found with the bow, and evidently belonging to it, are quite non-Egyptian in type, and correspond closely with arrows represented in Assyrian sculptures of a somewhat earlier date.
3. The date of the tomb (XXVI dynasty) corresponds with the end of the Assyrian invasion, which took place during the XXV dynasty, and lasted till the rise of the XXVI dynasty.

While it seems probable that this XXVI dynasty bow was a product of an invasion of Egypt from the North, it appears likely that the Rameside bow in the Berlin Museum may have been a relic of an Egyptian invasion of the North, obtained perhaps during the punitive expedition of Ramesu II into Northern Syria against the Khita, when he captured their capital, the island city of Kadesh on the Orontes. Syria, lying as it did between the two great and powerful kingdoms, was from very early times the meeting point of Babylonian and Egyptian influence and culture, and, if we should with Dr. von Luschan regard the Rameside bow as "Hittite" rather than Assyrian, we can still, from the geographical position and political relationships of the "Hittite" kingdom, account for the close resemblance to the Assyrian type of bow, and at the

same time for the presence of this alien type of bow in Egypt.

There is a difference of upwards of 600 years between the dates of these two bows, supposing that the dates assigned to them are correct, and we may perhaps regard the later bow as a modified and improved descendant of the earlier. This would give us two stages in the direct line of evolution of the early composite bow.

When it is considered that the kingdom of Assyria lay near to the southern limit of distribution of the composite bow, and was situated immediately adjacent to Media and Persia, the latter of which, in later times, became famous as the country in which the composite bow reached its highest perfection, it will be seen that any examples of Assyrian bows which may be discovered, must be interesting, not only *per se*, but also from the light which they may throw upon the early developmental history of the higher types of composite bow. It is greatly to be hoped that more material of this kind may be discovered.

It must be admitted that the two bows of composite structure hitherto found in Egypt are remarkable rather for their divergence from, than for their resemblance to the later Persian and other Asiatic composite bows; but we must remember that in ancient times the "Scythians" were perhaps the most celebrated archers, and that it was to them to whom Cyaxares, King of Media, applied for instruction in archery, and to teach his youths the art of using the bow.¹ During that king's reign, moreover, the Scythians conquered and occupied Media. Hence we can readily see that a northern type of bow may have been grafted upon that already familiar to the Medes and Persians, which would in all probability have been a type very similar to that of their neighbours the Assyrians. So that the "Assyrian" type may have lost its individuality through fusion with a superior and possibly Mongolian type of bow, and have been practically superseded by it. Be this as it may, the modern Persian and North Indian composite bows differ considerably in the details of structure from the modern Mongolian types, and seem to suggest a fusion of two or more types in early days.

In many respects these bows of "Assyrian" type bear a resemblance to the composite bows with *close* sinew backing of many modern tribes of N.W. America (Ossage, Modoc, etc.), which I have always maintained represent the survival of an *early phase* in the development of the higher types of composite bow.² The two ancient bows are certainly of more complex

¹ "ὅστε δὲ περὶ πολλοῦ ποιόμενος αὐτοῖς, παῖδας σφί παραδόντε τὴν γλῶσσαν τε ἱερὰθειαν, καὶ τὴν τέχνην τῶν τόξων." Herodotus, "Hist.," I, 73.

² "Journ. Anthropol. Inst.," xix, 1890, pp. 226 and 244, and xxiv, p. 67.

construction and of finer workmanship, but in general type and in the single continuous curve which would be assumed when strung and drawn, the resemblance to N.W. American bows is manifest. These bows present features which we should naturally look for in composite bows of *early* type; for the composite bow must have originated in an attempt to strengthen the pre-existing self-bow, and such bows as the "Assyrian" and N.W. American seem to some extent to represent *transitional* types between the simply reinforced self-bow and the later composites, which show special modifications in structure, combined with the development of the well-known "Cupid's bow" curves.

It may be asked, to what extent does the "Assyrian" composite bow which I have described, throw light upon the structure of the very curious *angular* bow so frequently represented in the Assyrian sculptures? Mr. Longman, in his paper read before the Institute, raised the question of the possible structure of angular bows, and endeavoured to account for its very peculiar form. In the discussion which followed the paper, I was obliged to confess myself highly sceptical as regards there ever having existed actual bows of such a shape, at least for use in archery, and attributed the shape as represented to the perpetuation of an artist's error in the delineation, giving reasons in support of this view.¹ The examination of the present "Assyrian" bow certainly in no way confirms the straight-limbed, angular bow, as represented, as an actual weapon, as nothing in its structure is consistent with the fanciful and utterly unpractical shape shown in the sculptures. Unless we are to regard its peculiar delineation as a stereotyped artist's error, the angular bow of the Assyrians must, I venture to think, still remain a mystery if not a myth. At least we are not yet justified in admitting the angular bow as a *novum genus* or *nova species* in the category of bows. It has occurred to me as just possible that the rather abrupt backward setting of the handle, observable in both of the ancient composite bows, may have started the idea of an angular centre in the minds of Assyrian artists, themselves perhaps inexperienced in the essential points of an efficient bow, the great exaggeration of this peculiarity being due to their imaginative minds, and partly no doubt to the fact that straight lines could be executed with greater facility than curved ones. Once accepted as a pictograph representing a bow, there is no reason why the angular anomaly should not have continued to exist as such, even side by side with more realistic representations. Perhaps the com-

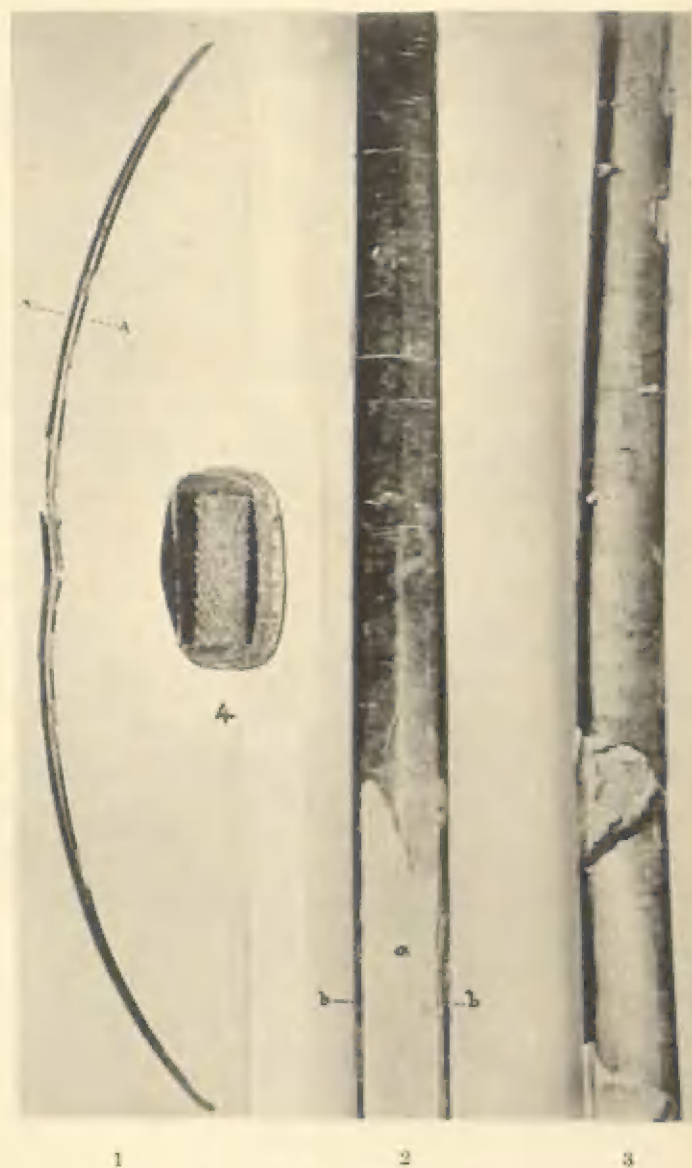
¹ "Journ. Anthropol. Inst.," xxiv, pp. 55, 56, also "Edinburgh Review," July, 1895, pp. 37, 38.

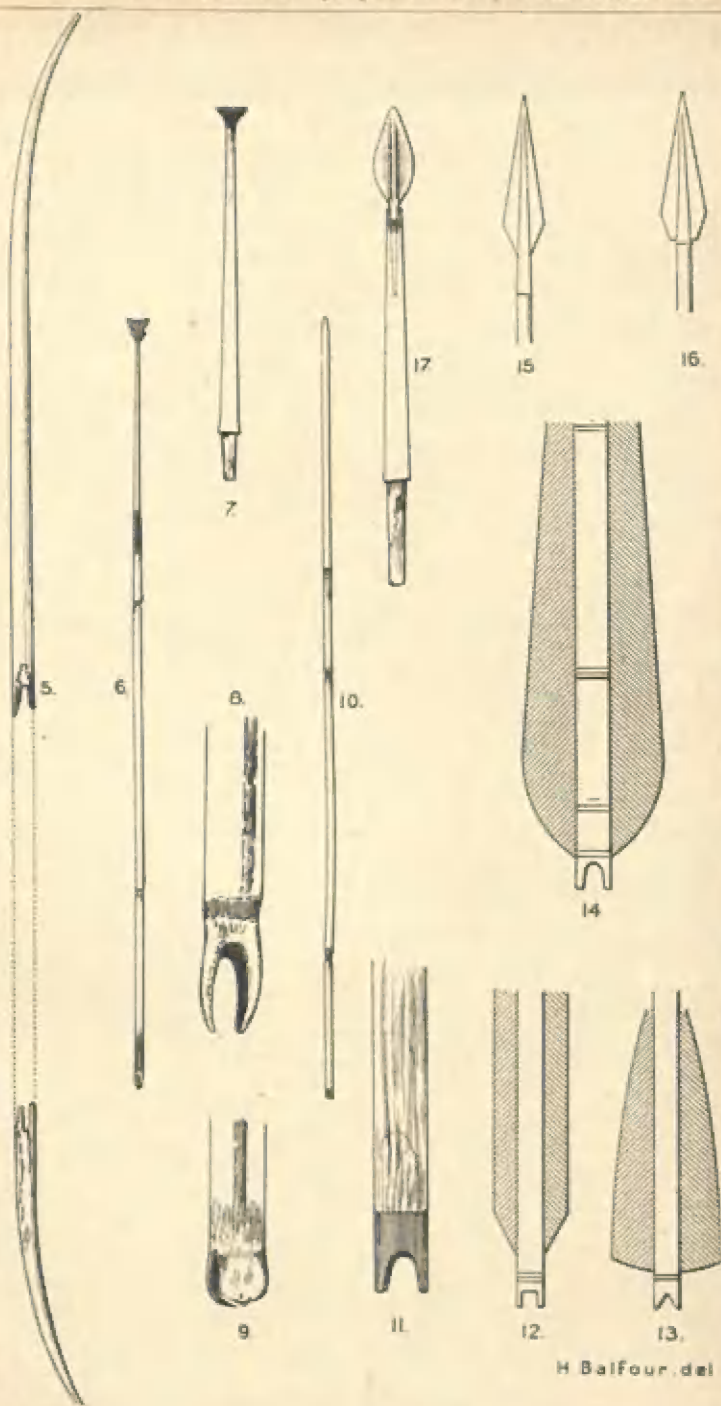
pletely developed (or degraded) angular bow was arrived at only by a series of *successive* copyings by one artist from another, a process which we know is all-powerful in the production of even purely unintentional variation in art designs.

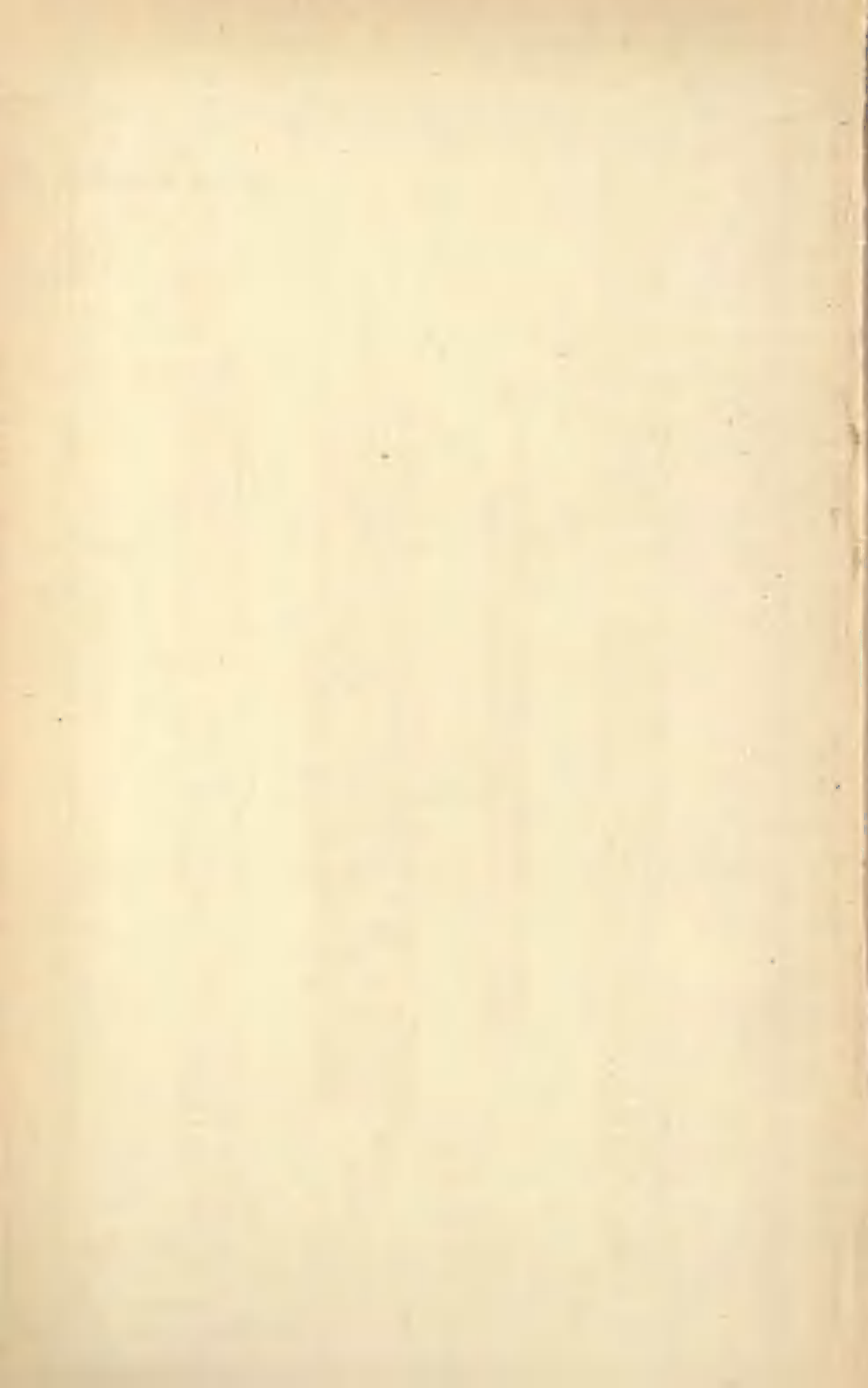
In concluding, I may add that I am giving the bow with its arrows to the Oxford University Museum, as an addition to the fine series of composite bows collected by General Pitt-Rivers, which forms an important feature in the ethnographical collection presented by him to the University.

Description of Plates IX and X.

- Fig. 1.—Side view of "Assyrian" bow, showing general shape, and *reflex* curves. Found in a XIIth Dynasty tomb at Thebes, Egypt.
- Fig. 2.—Portion of the "belly" of the same bow showing the grooved inner core of wood (a), the two side strips (b, b), the low, central ridge, and the bark covering. c. $\frac{1}{2}$ scale.
- Fig. 3.—Portion of the "back" of the same, showing the bark layer overlying the sinew "backing" which is eaten away in places. c. $\frac{1}{2}$ scale.
- Fig. 4.—Transverse section cut through one limb of the bow at a point marked A . . . A in fig. 1 (for description of the section see woodcut in the text, p. 213). Actual size.
- Fig. 5.—Egyptian bow of plain wood, found in the same tomb as the above.
- Fig. 6.—Egyptian arrow, with reed shaft, wood foreshaft and stone head set in cement.
- Fig. 7.—Foreshaft and flint head of another Egyptian arrow.
- Fig. 8.—Butt of Egyptian arrow, showing nock cut in the reed end, and trace of the glue which held one of the feathers. Actual size.
- Fig. 9.—Butt of another Egyptian arrow showing a different type of nock. Actual size.
- Fig. 10.—"Assyrian" arrow, with reed shaft, pointed wooden foreshaft, and nock-bearing hard wood plug. Found with the "Assyrian" bow.
- Fig. 11.—Butt of "Assyrian" arrow, showing the hard wood plug in which the nock is cut. Actual size.
- Figs. 12, 13, 14.—Butts of Assyrian arrows copied from sculptures of Assur Nasirpal, in the British Museum. Reduced in size.
- Figs. 15, 16.—Heads (bronze bladed) of arrows on the same bas-reliefs. Much reduced.
- Fig. 17.—Foreshaft of "Assyrian" arrow, with leaf-shaped bronze blade.

















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NOVEMBER 24TH, 1896.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The elections of Mrs. R. F. WILKINS, R. BURNARD, A. KEITH, and H. WELD BLUNDELL as Fellows, and R. H. MATHEWS, as a Corresponding Fellow, were announced.

The following paper was read :—

"Ethnographical Notes in New Georgia." By Lieut. BOYLE J. SOMERVILLE, R.N. Illustrated by the Optical Lantern.

DECEMBER 8TH, 1896.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The election of Dr. R. M. CONNOLLY was announced.

The following paper was read by Prof. E. B. TYLOR, D.C.L., F.R.S.:—

FOUR HURON WAMPUM RECORDS: *A Study of Aboriginal American History and Mnemonic Symbols.* By HORATIO HALE, M.A. (Harvard), F.R.S., Canada. Author of *Ethnography and Philology of the U.S. Exploring Expedition*, the *Iroquois Book of Rites*, etc.

[WITH PLATES XI, XII, XIII, XIV.]

I.

THE HURON NATION.

Its Position among American Tribes—Claim to Pre-eminence—Early History—Hochelaga—Cartier's Visit—Use of Tobacco and Wampum—War with the Iroquois—Defeat of the Hurons and Retreat to the West—The Wendat—The Tobacco Nation—Visit of Champlain—His Disastrous Expedition—The Iroquois Confederacy—Hiawatha.

THE surviving members of the Huron nation, even in its present broken, dispersed, and half-extinct condition, still retain the memory of their ancient claim to the headship of all the aboriginal tribes of America north of Mexico. That there

was originally some good ground, in tradition and in character, for a claim of this sort, though not quite so extensive, must be admitted. The Hurons, or Wendat, as they should properly be styled, belonged to the important group, or linguistic stock, which is commonly known, from its principal branch, as the Iroquoian family, and which includes, besides the proper Huron and Iroquois nations, the Attiwendaronks (or neutral nation), the Eries, Andastes, Tuscaroras, and Cherokees, all once independent and powerful tribes, though some of them are now extinct. In the whole of Cis-Mexican North America, only two stocks surpassed the Iroquoian in population and extent of territory. These were the Algonkin-Lenâpé family (or as it is now scientifically named, the Algonquian stock), whose widely scattered tribes encompassed the more condensed Iroquoian nations in a vast circuit, which, beginning with the Abenakis, or Eastlanders, of the Gulf of St. Lawrence, extended northwestward in the Crees of Labrador and Hudson Bay, and the Ojibwas (or Chippewas) of Lake Superior, to the Blackfoot tribes of the Rocky Mountains, and thence circled south and east to the Arapahoes and Cheyennes of Kansas and Arkansas, and the Illinois, Shawnees, and Miamis of the Ohio plains, reaching the Atlantic again in the Powhatans of the Potomac, the Lenâpés of the Delaware, the Mohegans of the Hudson, and the Narraghansets, Massachusetts, and Penobscots of New England. The other equally widespread stock was the Athapascan or Tinnéh family, whose northern tribes wander over the continent in the wide space between the Northern Algonquian and the Arctic Eskimos, while the southern branches—Umpquas, Hupas, Navahos, and Apaches—occupy large portions of Oregon, California, New Mexico, and Arizona. A third linguistic family of some note, which has been supposed, though incorrectly, to be allied to the Iroquoian—the Sionan (or Dakotan) of the Western Mississippi prairies, deserves notice from the fact that recent researches have found evidence of the former residence of some of its tribes near the Atlantic seaboard, in close contact with those of the Iroquoian and Algonquian stocks.

Among all these and other tribes of Northern America, the Iroquoians held an acknowledged pre-eminence in intellectual vigour and advanced traits of polity, which have won the admiration and the sometimes unwilling respect of almost all who have had occasion to treat of them—from the early Franciscan and Jesuit Missionaries to the most enlightened ethnologists of our day—from Sagard, Brebeuf and Charlevoix, to Gallatin, Parkman, and Brinton. Gallatin, in his "Synopsis of the Indian Tribes," notices the remarkable fact that while

the "Five Nations," or Iroquois proper, were found by Champlain, on his arrival in Canada, to be engaged in a deadly warfare with all the Algonquian tribes within their reach, the Hurons, another Iroquoian nation, "were the head and principal support of the Algonquian confederacy." "The extent of their influence and of the consideration in which they are held," he continues, "may be found in the fact that even the Delawares, who claimed to be the elder branch of the Lenapé nation, recognised the superiority of the Hurons, whom to this day they call their uncles." The origin of this notable difference of political sentiment between the two main branches of the Huron-Iroquois people had not, when Gallatin wrote, been discovered. It will be found fully set forth in my paper on the "Fall of Hochelaga."

It will then be seen that in ancient times, before Cartier discovered and explored the St. Lawrence River, these two tribes, the Hurons and the Iroquois, dwelt together in friendly unison on the shores of that river, near the present site of Quebec. A quarrel arose, leading to the retreat of one of the contending parties to the southern side of the river. Their posterity, augmented perhaps by adherents from other refugees of Iroquoian stock, became at last the Five Confederate Tribes, or nations, who carried on, for many generations, a desperate warfare with their northern congeners and former friends, the Hurons—a warfare ending at last in the complete conquest and dispersion of the latter people. During the whole of this protracted struggle the Hurons remained, as they had been from the beginning, the friendly allies of the Algonquians, to whom, on the other hand, the Iroquois Confederates had become deadly enemies. A knowledge of these facts, which has been recently gained from the traditions of both branches of the Huron-Iroquois people, clears up many obscurities that have heretofore perplexed the writers who have dealt with their history. It is essential to the correct understanding of their wampum records.

We owe to the narrative of Cartier's voyages our earliest acquaintance with the Hurons, who were thus the first of North American Indians to become known to European visitors. In the autumn of 1635, Cartier with his little squadron of three small vessels, the largest not exceeding 120 tons, ascended the great stream which the natives knew as the river of Hochelaga, but which he christened the St. Lawrence. He found its shores above its great tributary, the Saguenay, occupied by sedentary tribes, whose language and customs, as recorded in his narrative, show them to have belonged to the Huron-Iroquois family. Two of their customs are particularly

deserving of note in connection with our present subject. These natives were much addicted to the use of tobacco. The natives were accustomed to lay up in summer a great store of its leaves, which were dried for the winter. Only the men used it. Every man carried at his neck a skin pouch containing a quantity of it, which he smoked in a pipe of stone or wood. This, they said, kept them healthy and warm, and they were never found without it. But the most highly valued of all their possessions was that which they called *esurgny*, an ornament made of beads, which they fashioned from shells found in the river. "These beads," says the writer, "they use as we do gold and silver, and deem them the most precious thing in the world." They used them, it seems, chiefly in the form of "chains" and "collars," or as English writers at a later day have been wont to style them, strings and belts. When Cartier, in the following year, treacherously seized at Stadaconé the chief of that town to convey him to France, his people, in the hope of redeeming him, presented to the captain "twenty-four collars of *esurgny*," which the writer repeats, "is the greatest treasure which they have in the world, for they prize it above gold and silver." The name *esurgny* is apparently an attempt to express in French orthography the Iroquois *iouni* (defined by Bruyas in his dictionary as "*collier de porcelaine*"), with the pronominal *es*, meaning "thy" prefixed. "Your wampum belts," cried the beseeching people, extending their precious ransom to the unrelenting kidnapper, secure behind the terrors of his artillery.¹

The "kingdom of Hochelaga," as Cartier styles it, comprised, besides the fortified "city" of that name, the important town of Stadaconé (commonly known to its people as *Canada*, or "the town"), and eight or nine other towns along the great river. All these were at this time waging a desperate warfare against a people dwelling south of them, whom they knew as the Tondamani, a name in which some have thought to trace a corruption of Tsonontowané, the native appellation of the Senecas, who were the most powerful of the Iroquois nations, and were deemed by the Hurons their most determined and formidable enemies. This interpretation seems plausible enough. All the circumstances render it probable that Hochelaga, at the time of Cartier's visit, was tottering to its fall before the attacks

¹ As some question has arisen as to the nature, or rather the material, of this *esurgny*, I may mention that a recent communication with which I have been favoured by Sir J. William Dawson, who has made a careful study of the subject, gives the decisive information that "the only shell-beads found in the excavations on the site of Hochelaga, in riddling the kitchen-midden stuff through fine sieves, are small beads of the ordinary form, made apparently of the shells of a unio."

of the Confederate Iroquois tribes. After its overthrow, the vanquished Hurons, in retreating westward, seem to have taken two widely separate routes. One party of them, as related by the native historian, Peter Dooyentate Clarke, fled to the south-west under their great chief, who bore the title of Sastaretsi. Keeping at first near the St. Lawrence, they afterwards diverged northwardly, until they found what seemed a secure refuge among the Blue Mountains, in a nook of the Georgian Bay of Lake Huron.¹ In their new abode they were known, if not among themselves at least to other nations, as the Tionontaté, or "People beyond the Mountains," and also to the whites as the *Nation du Petun*, or the Tobacco Nation. They cultivated a choice description of tobacco, which they sold—"thus offering," as Parkman remarks, "an example extremely rare among Indians, of a tribe raising a crop for the market."² It seems highly probable that this nation comprised the direct descendants of the former inhabitants of the city of Hochelaga itself. Though not very numerous, they are held to be at the head of all the Huron-Iroquois people. According to their tradition, preserved by La Hontan, "the name of their leader, Sastaretsi, had been kept up by descent for seven or eight hundred years." Even after their expulsion by the Iroquois from the Blue Mountains they continued to hold, as Parkman writes, "a paramount influence among the western nations, and were, among these allies, according to Charlevoix, the soul of all councils."

The larger body of Hurons who had been the subjects or allies of Hochelaga seem, after the overthrow of this capital, to have migrated in a more northerly direction, following the Ottawa River, and thus gaining the aid of their Algonquian friends in beating off their Iroquois pursuers. Their final refuge was found in the fertile and inviting region between

¹ These mountains lie so far out of the ordinary routes of travel as to be little known even in western Ontario. For the following clear description of them I am indebted to Dr. George M. Dawson, C.M.G., Director of the Geological Survey of Canada:—"The Blue Mountains are a more than usually elevated part of the Niagara limestone escarpment, or ridge, which runs across Ontario and out in the promontory between Lake Huron and the Georgian Bay. The tract so termed is central in Collingwood township, extending north from about Osprey nearly to the lake shore. The highest part is about 1,800 feet above the sea. Several important streams rise from them and flow south."

² A probable etymology of the name "Iroquois" refers it to this source, see the "Iroquois Book of Rites," Appendix, Note A (p. 171):—"According to Bruyas, the word *garokwa* meant a pipe and also a piece of tobacco, and in its verbal form, "to smoke." In the indeterminate form the verb becomes *ierokwa*, which is certainly very near to Iroquois. It might be rendered "they who smoke," or "they who use tobacco," or briefly, "the tobacco people." The Iroquois were well known for their cultivation of this plant, of which they had a choice variety."

Lake Simcoe and the Georgian Bay, which is at this day one of the most attractive portions of the Province of Ontario. Their country was reckoned by them to be about two days' journey east of that of the Tobacco Nation, with whom they were destined to be again united in a common ruin. But, for a considerable time, they remained a separate community, a confederacy of five distinct tribes, similar in some respects to the famous "Iroquois League," though much looser in its organisation and less effective. Here, in 1615, they were found by Champlain, when he came to summon them for his disastrous expedition against the Iroquois. His first view of their country is thus described by Parkman in his "Pioneers of France in the New World":—"To the eye of Champlain, accustomed to the desolation he had left behind, it seemed a land of beauty and abundance. He reached at last a broad opening in the forest, with fields of maize, pumpkins ripening in the sun, patches of sunflowers, from the seeds of which the Indians made hair-oil, and, in the midst, the Huron town of Otonacha. In all essential points it resembled that which Cartier, eighty years before, had seen at Montreal; the same triple palisade of crossed and intersecting trunks, and the same long lodges of bark, each containing several families. Here, within an area of 30 or 40 miles, was the seat of one of the most remarkable savage communities on the continent. By the Indian standard it was a mighty nation; yet the entire Huron population did not exceed that of a third or fourth class American city."

The ill-advised attack of Champlain and his Huron allies upon the Iroquois Confederates, ending in defeat and flight, had most serious consequences, not only for the combatants directly concerned, but for the whole continent. It aroused the animosity of the Five United Nations against both Canada and the Hurons to the highest pitch, and brought on a long and deadly warfare which soon ruined the Huron nation, and in time so weakened their white allies as to lead finally to the conquest of Canada by the British. While the persistent energy and far-seeing sagacity of the united Iroquois tribes have been much admired and highly lauded, they have been at the same time severely condemned for cruelty, ferocity, and bloodthirstiness. Both the praise and the blame have in a large measure been awarded in error, merely because the grounds and results of their action have not been correctly understood. If they had remained as they were when they quarrelled with their Huron cousins and fled to the region south of the St. Lawrence, much that has been said of them would have been just, and much more would have been inappropriate. But in the meantime a remarkable

change had taken place in their character, a change which recalls that which is believed by historians to have been developed in the character of the Spartans under the institutions of Lycurgus, and the similar change which is known to have appeared in the character of the Arabians under the influence of the Mohammedan precepts. A great reformer had arisen, in the person of the Onondaga chief, Hiawatha, who, imbued with an overmastering idea, had inspired his people with a spirit of self-sacrifice, which stopped at no obstacle in the determination of carrying into effect their teacher's sublime purpose. This purpose was the establishment of universal peace. All who acceded to this object were to be heartily welcomed; all who refused and opposed were to be overborne by any means and compelled into acquiescence. When Gallatin wrote, in 1836, these facts and motives were unknown. It thus happened that while lauding highly the remarkable ability and "cultivated intelligence" of the Iroquois, he was led to rank them "among the worst of conquerors." "They conquered," he declared, "only to destroy, and it would seem, solely to gratify their instinct for blood." Nothing could be more unjust, or more contrary to the historical facts, when these are rightly understood. Impartial inquiry will show that in every instance when, after the League of Peace was established by Hiawatha, the Iroquois entered upon a war, it was begun in self-defence, and that as soon as their enemy's resistance ceased, slaughter ceased with it. At the close of the long warfare in which Champlain and his Hurons and Algonquian friends took part, great numbers of Ojibwas entered into friendly alliance with the Iroquois, great numbers of other Algonquians—Delawares, Mohigans, and Conoys—remained as protected tribute-rendering dependents; and thousands of surviving Hurons, Attiwendaronks, Eries, and other conquered peoples, had been incorporated with the nations of the League, while no less than four friendly nations, the Tuscaroras, Tutelos, Nanticokes, and a branch of the Delawares, had been, at their own request, admitted as members of the League. In view of their magnanimous policy, exhibited in thus sparing all who submitted, and welcoming all who wished to join them, the Iroquois Confederates have been styled by a well-informed and most intelligent writer, Governor De Witt Clinton, "the Romans of the West." For other facts relating to this subject, I must refer to my papers, of which the titles are here given.

II.

LATER HISTORY OF THE HURONS.

Final Defeat and Dispersal—Some Return to Quebec—New Lorette—Two Towns join the Iroquois and receive Liberal Treatment—The Tobacco Nation Flee to Lake Superior—Return to Michigan—Settle near Detroit—Alliance with Algonquian Tribes—Emigration to the South-west—Wyandot Reservation—Anderdon Reserve—Present Condition.

The story of the fortunes which befel the Hurons after their final defeat is instructive. While some of them took refuge among the Eries, Andastes, and other yet unconquered tribes of the Huron-Iroquois stock, several hundreds of Christian converts fled eastward to the ancient abode, near Quebec, from which their forefathers had been driven, a century before, by their Iroquois enemies. There, at what is known as New Lorette, their descendants remain to this day, a half-caste people, French in complexion, language and religion, but Indian in habits and character, a favourite study of travellers. At the same time, two entire towns of the Hurons adopted what would have seemed a desperate expedient, if they had not known that the loudly proclaimed clemency of their conquerors was not a snare, but a settled part of their constitutional policy. They determined to solicit an unconditional admission into the Seneca nation, the most powerful and most persistent of their enemies. Their offer was at once accepted, and on the most liberal terms. They were not scattered as captives among their conquerors, but were allowed to form a town by themselves, though in conjunction with some other refugees who had been previously admitted on similar terms of grace. "Here," writes the Missionary Ragueneau, in the Relation of 1651, "they are now living as quietly as if they had never known war." Nineteen years later, the Missionary Fremin found them still dwelling peaceably in their town, Gandougaraé, on friendly terms alike with their fellow refugees and their Iroquois conquerors, and preserving with fervent devotion the Christian faith which they had accepted before their change of abode, and the profession of which, instead of occasioning displeasure, had gained them respect among the surrounding heathen. Thus, according to the testimony of the missionaries themselves, the Iroquois, whom their earlier reports depict as the most implacable and ferocious of enemies, had become, under the institutions of Hiawatha, the most merciful and generous of conquerors.

The people of Sastaretsi disclaimed to adopt either expe-

dient. They would neither seek shelter under the cannon of Quebec, nor accept the mercy of their hereditary enemies. They had, for a full century, since their flight from Hochelaga, dwelt in proud isolation in their mountain retreat. It was only about ten years before the final dispersion of the Wendat tribes that they had consented to join them, and make the sixth member of their confederacy, in the struggle against the common enemy. The name of Wendat (pronounced as if spelt in English *Waindat*), which they thus assumed, was for them hardly an exact designation, though, under the form of Wyandot, it became the appellation by which they were henceforth to be generally known. It signifies literally "people of one speech," being compounded, Indian fashion, from the words *Wenda*, language, and the radical portion (*at*) of *skat*, one. But careful inquiries, made during two visits to the survivors of this highly conservative people, showed that their language differed in some respects very decidedly from that of the proper Wendat tribes, and had preserved, in especial, one remarkable relic of the original Hochelagan speech which the others had lost. This was the labial articulation *m*, which has disappeared from every other Huron-Iroquois dialect, except that of the equally conservative Cherokees.¹ While accepting the name of Wendat, the descendants of the Tionontaté people retain to the present day this and other relics of their ancient tongue. Their spirit of haughty independence remained unbroken. Welcoming all the members of the other Huron bands who chose to claim refuge among them, they betook themselves to their canoes, and sought at first in Michigan, and afterwards in the westernmost recesses of Lake Superior, an asylum from their persistent enemies. Their farthest flight brought them to the country of the suspicious and quarrelsome Sioux, the hereditary enemies of the Hurons' Ojibwa allies. From this uncomfortable neighbourhood they turned back, and gradually made their way eastward towards the vicinity of their former home. They settled for a time in or near the island of Michilimackinac, and finally fixed upon a pleasant abode, on both sides of the Detroit River, in the midst of their Algonquian friends, the Ojibwas, Ottawas, and others, and under the protection of the newly established French fort, Pontchartrain. Here, in the wars which prevailed among their successive guardians, the French, English, and revolted colonists, and through the abortive conspiracy of Pontiac, they underwent many vicissitudes, but managed to retain their lands and their highly prized autonomy. Mean-

¹ See on this point fuller particulars in Hale's "Indian Migrations as evidenced by Language," in "American Antiquaries," 1883.

while their numbers had dwindled, and by the year 1840 had become reduced to about a thousand, of whom less than two hundred remained in Canada West, the rest being scattered in several bands through the States of Michigan and Ohio. Shortly afterwards, on the invitation of the American Government, the majority of the nation, some eight hundred persons, decided to remove to the south-west, at first in Kansas, and ultimately to the Indian Territory. Here the remnant, reduced by the sufferings and illness which invariably accompany an Indian migration, to less than half their original number, now reside. The population of their "Wyandot Reservation," of 21,400 acres, was in 1889, according to the official returns, only 279 persons; but these were, it is evident, a civilized people, all "wearing citizens' dress," nearly all "able to read," possessing three church buildings, and reporting 120 church members. They had 9,000 acres of land fenced, on which they gathered during the year 25,000 bushels of Indian corn, 2,000 bushels of wheat, and 750 tons of hay, with other crops, and pastured 250 horses, 800 cattle, and 500 sheep. Those who remained in their small Canadian tract of 7,700 acres, known as the "Anderdon Reserve," near Amherstburg, on the Detroit River, gave even better evidence of progress. I visited them twice, in 1872 and 1874, and found them living in a comfortable style, very like that of their white neighbours, with whom they mingled freely, evincing no inferiority in intelligence or character. They numbered then only about sixty. The best evidence of their progress and prosperity is found in the fact that in 1884 their number had increased to eighty-eight, and nearly the whole of them had ceased to be "Indians under tutelage." According to the Government Report of that year, the large majority had been enfranchised during the previous year. "Having served the term of probation required by law, they had received letters patent, conveying to them in fee simple the lands individually assigned to themselves and their families." Thus the once proud and powerful Huron people, whose ancestors welcomed Cartier, and faithfully sustained Champlain and the French colonists in their wars with the Iroquois and the English, more than three hundred years ago, have in our day shrunk to three insignificant and widely scattered communities, numbering altogether less than seven hundred members, but still retaining everywhere the indomitable spirit of independence and self-reliance which makes them, next to their near Iroquoian kindred (unless we should also perhaps except their more distant Cherokee congeners), the most creditable representatives of the American aboriginal race.

During my visits to the Anderdon Reserve, I received from the two leading members of the band, Joseph White, the Chief, and Alexander Clarke, the Government Interpreter, and also on one occasion from Alexander's brother, Peter Clarke, the author of the "Origin and Traditional History of the Wyandotts," who happened to be there on a visit to the Reserve from his home in the U.S. Indian Territory, much information concerning the language, traditions, and customs of their people. All these were, like most of their tribesmen, persons of half-blood, "Mr. White," as he was commonly called, being in part of French origin, and the two Clarkes being the sons of an English military officer who had settled in Canada and taken a Wyandot wife. All had had some schooling, but had been brought up among their Indian kindred, and were fully imbued with Indian beliefs and sentiments. Each had his Indian name, given by his native kindred, with no more special reference to the bearer than the ordinary names of white children. The chief was named *Mandorong*, having the whimsically inappropriate meaning, for a man of his frank and kindly disposition, of "we are unwilling." The tall and stalwart interpreter might, no doubt, have wielded with effect the "war-club" (*chehté*), which he claimed as his name. The meaning of his brother's native name, Dooyentate (which appears on the title-page of his book), I omitted to obtain. The accounts which I received from them of the primitive religious beliefs of their people agreed precisely with those related in the earliest missionary narratives, especially those of the Franciscan Sagard, and the Jesuits Brebeuf and Ragueneau. Some folk-stories, apparently of later origin, harmonized with them: while still others bore marks of foreign and in some cases of missionary origin. A few of these stories have been published in the "American Journal of Folk-Lore." The most important historical tradition, derived in the first instance from Chief Mandorong, and afterwards confirmed in its main particulars by Peter Clarke's History, was an unexpected revelation, which is embodied in my paper, "The Fall of Hochelaga."

III.

THE HURON WAMPUM RECORDS.

Their Number and History—Partition at Division of Tribe—Manufacture and Use of Wampum—Attempts to Counterfeit—Difference between Early and Recent Beads.

Of native records, in the form of wampum belts, the Wyandots had a large store. The chief, in speaking of this, as he remembered it before the division of the tribe, affirmed

that there were belts enough, if spread out, to cover the floor of the room in which we sat,—a farm-house parlour about 15 feet square. Clarke makes special mention of them in his history, as contained in a large trunk, and as the object of peculiar solicitude. During the last decade of the eighteenth century they were placed in charge of a Huron chief, named Peter Brown, who was of purely English origin. He had been carried off by a Huron marauding party from a frontier settlement of Virginia, "on his way to school," at the age of eight years. He was brought to Michigan, adopted by a Wyandot family, and when he grew up, married a Wyandot woman, whom Clarke affirms to have been his own maternal grandmother. Thus we learn that Clarke's mother had the attractions of an English half-caste, with doubtless some knowledge of English speech and of civilised habits, to captivate her military lover and husband. The story introduces into our history an element of romance which novel writers have been fond of dealing with, and of which the real life of the last century in America presented many examples.

"About this time," Clarke tells us, "the king, or head-chief, of the Wyandotts, Sut-staw-ra-tse [Sastaretsi] called a meeting at the house of Chief Adam Brown, who had charge of the archives, which consisted of wampum belts, parchments, &c., contained in a large trunk. One by one they were brought out and shown to the assembled chiefs and warriors. Chief Brown wrote on a piece of paper, and tacked it to each wampum belt, designating the compact or treaty it represented, after it had been explained from memory by the chiefs appointed for that purpose. There sat before them their venerable king, in whose head were stored the hidden contents of each wampum-belt, listening to the rehearsal, and occasionally correcting the speaker and putting him on the right track whenever he deviated." "The head-chief who presided on this occasion for the last time," continues the historian, "was the last lineal descendant of his race of pure Wyandot blood. His lamp of life went out at the close of this decade—between the years 1790 and 1801. None can now be found among the remnant of his nation but what are either mixed with the whites or with Indian blood of other tribes."

What became of these records was explained to me by Chief White, whose explanation was fully confirmed by Clarke's History, and is thus recorded in my journal:—"When the majority of the people removed to the south-west, they demanded to have the belts, as these might be a safeguard to them. Some of these belts recorded treaties of alliance or of peace with other tribes which were now residing in that region,

and it might be of great importance for the Wyandots to be able to produce and refer to them. The justice of this claim was admitted, and they were allowed to have the greater part of the belts. They left those which related to the title of the Indian lands in Canada, to the adoption of the Christian religion, and a few others." The chief did not clearly remember, with regard to all the belts he had, what precise event each was intended to commemorate. He said that the belts which he knew best were those which had been taken away. He had often heard them "read," in former times, by the old chiefs; but of course, of late years, since the majority of the people went away, the remaining belts have been little but useless lumber. The written explanations attached to them by Chief Brown have disappeared. It may be added that, in the Indian estimate, the only documentary value of the wampum record is its actual present utility as evidence of a subsisting treaty or land-right. To any merely archaeological purpose which it may serve they are entirely indifferent. The chief said that he had some belts which were his private property, and which he could sell to me. I inferred that they were belts which had ceased to be of practical use, and which the former wampum-keepers, in accordance with tribal usage, had left at his disposal.

The four belts which I obtained from him in my different visits, and which are now to be described, were such as had thus ceased to be of use as political documents, while they yet remain records of the highest historical and archaeological interest (see Plate XI). They belong, as appears by various evidences, to two distinct eras and categories. Three of them date back to the era of Champlain and the Jesuit Missions, and refer to events of signal importance, which occurred near the close of that epoch. The fourth belongs to the later period of the return of the Hurons to the east, and their settlement near Detroit under the protection of the French, about the beginning of the eighteenth century. The external difference between the two classes of belts is striking at the first glance. The older belts are entirely of native make; the later one is formed of similar materials, which have been put together by Indian hands, but the shell-beads and perhaps in part the strings which unite them have been procured from white men. In the older belts there is no uniformity in the size of the beads, some of them being twice as large as others. It is evident that they were made by hand, a work to which only Indian patience could be equal; while the later beads of nearly uniform size, were as evidently wrought by a lathe. It is a curious fact that in the space of less than two centuries which has elapsed since the

Indians ceased to manufacture wampum, the knowledge not merely of their forefathers' mode of making it, but of the fact that it was an article of native workmanship, has in some tribes been lost. Important national events in their past history, such as wars and migrations, are vividly recalled, but minor matters have faded from memory. To my great surprise, the Wyandot historian, Peter Clarke, in our first conversation, assured me positively that the Indians had never made wampum beads, and seemed insulted when I ventured to correct him. I afterwards found the reason of his sensitiveness in the fact that he had recorded his opinion in a footnote of his history, which reads as follows :—"Wampum is manufactured from a species of sea-shell, expressly for Indians, by Europeans, perforated (lengthwise) tubes, about $\frac{1}{2}$ -inch in diameter and $\frac{1}{2}$ -inch in length, and of a mixed light and dark-purple colour. The tubes are fastened together with strong thread or ligament into belts, from 5 to 7 inches in width, and from 24 to 40 inches in length." Unfortunately, I had not at hand a volume of Sagard's "*Journey to the Huron Country*," with which I might have instructed and perhaps soothed and gratified my too sensitive disputant. I could have shown him the passage in which the good Franciscan Missionary, in his edition of 1632 (just two hundred years earlier than Clarke's publication), describes the process of making these *pourcelaines*, as he styles the wampum beads. "They are made," he says, "of the substance (*des os*) of those great sea-shells which are called conchs (*vignols*), resembling snails. These they cut into small pieces, then polish them on a stone, perforate them, and make of them collars and armlets. It is a work of great pains and labour, owing to the hardness of their substance, which is quite a different thing from our ivory. This they value little beside their porcelain, which is handsomer and whiter." It is a somewhat amusing reflection that one of the ingenious Hurons whom Sagard saw engaged in the wampum-making process, which he so pithily describes, may have been an ancestor of the sceptical Clarke himself.

It is proper to notice that though many attempts were made to counterfeit the wampum, by Dutch and English colonists, soon after their settlement on the Atlantic sea-board, these attempts were for a long period only partially successful. Much information on this subject is collected by Mr. W. H. Holmes in his excellent monograph on "*Art in shell of the Ancient Americans*," published in the "*Second Annual Report of the American Bureau of Ethnology*." Thus, Thomas Morton, of Massachusetts, writing in 1630 of the New England Indians and their wampum beads, which then "passed current as money

in all parts of New England, from one end of the coast to the other," tells us that though some of the colonists "had endeavoured to make the same beads, of the same kind of shells, yet none had ever yet attained any good success, as the salvages have found a great difference to be in the one and the other, and have known the counterfeit beads from those of their own making and doe slight them." Nearly a century later, the surveyor Lawson, of Carolina, describing the same money, tells us that "the shells of which it is made are very large and hard, so that they are very difficult to cut. Some English smiths," he adds, "have tried to drill this sort of shell-money, and thereby thought to get an advantage; but it proved so hard that nothing could be gained." The introduction of the machine drill could not have made much difference in this respect, as each bead must still be fashioned separately by a white workman whose time was much more valuable than that of an Indian. That which finally gave the English beads the advantage was not the superiority or the cheapness of the workmanship, but the destruction of the Indian workmen. The quarter of a century which followed the publication of Lawson's book, from 1714 to 1740, saw the extermination of most of the Carolina tribes and a great decline in the number of all the Northern Indians. It was during this period that the wampum making industry seems to have ceased among them, and the use of machine-made beads to have become so universal that some respectable writers of a later period, such as Loskiel and Hutchinson, who on points within their own knowledge are of good authority, were led to doubt whether the Indians ever made many of these beads. A reference to the older writers and the testimony of the mounds puts this point beyond question.

The practice of making and using wampum belts and strings of the purchased beads still survived for a century longer. The work, as a general rule, was left to be done by the women, and the method remained the same as it was in the oldest historical times, though there was some change in the textile materials. The strings of native hemp, bark filaments, deerskin, and sinew, on which the beads had been strung and interwoven, gave place to foreign twine, including silken thread. In fact, these materials, which had been obtained by the Indians in their traffic, are found to have been used in some of their earlier belts. The method of weaving these belts was, though simple when once understood, a highly ingenious process, requiring much care and skill. The process cannot be better described than in the words of Mr. L. H. Morgan, one of the most careful and trustworthy of observers. Supposing a belt of seven rows, which is the most common width, to be designed, "eight strands

or cords of bark thread," he tells us, "are first twisted from filaments of slippery elm, of the requisite length and size; after which they are passed through a strip of deerskin to separate them at equal distances from each other in parallel lines. A piece of splint is then sprung in the form of a bow, to which each end of the several strings is secured, like warp threads in a weaving machine." The distance apart at which these parallel strings are held, it should be understood, is the average length of a wampum bead. "Seven beads, these making the intended width of the belt, are then run upon a thread by means of a needle, and are passed under the cords at right angles, so as to bring one bead lengthwise between each cord and the one next in position. The thread is then passed back again along the upper side of the cords and again through each of the beads; so that each bead is held firmly in its place by means of two threads, one passing under and one above the cords. This process is continued until the belt reaches its intended length, when the ends of the cords are tied, the ends of the belt covered and afterwards trimmed with ribbons. In ancient times both the cords and the thread were of sinew."

Most belts have devices interwoven, forming intelligible mnemonic pictures. These pictures are made by coloured beads, inserted as the belt proceeds, sometimes dark on a white ground, and sometimes white on a dark ground. To produce these pictures, with such intractable substances, requires in the weavers a degree of constant care and skill comparable only to that displayed in the making of gobelin tapestry.

IV.

THE FOUR HISTORICAL HURON BELTS.

"The Double-Calumet Treaty Belt"—"The Peace-Path Belt"—"The Jesuit Missionary Belt"—"The Four-Nations Alliance Belt"—The Several Symbols and the Treaties supposed to be Recorded.

1. The four Huron belts, which form the main subject of this memoir, may now be described, in the order partly of their presumed age, and partly of their importance. (See Plate XI, where they are numbered as in text, details being enlarged in Plate XII.) One of the oldest of them, and certainly the most important among them, is that which may be styled "*The Double Calumet Treaty Belt*." This, which must have been, when new, a truly imposing construction, is probably more than two and a half centuries old. It is nine beads in width, and is still over 3 feet and 9 inches long, though it has probably lost about a foot of its original length. It displays on a

dark ground of the costly purple wampum, the rather singular composite device of a council-hearth in the centre—or what was probably the centre—of the original belt, flanked on one side by four and on the other by three double-calumets (Plate XII, 1), or, in other words, double-headed peace-pipes, each possessing a bowl at each end. This, it need not be said, is, as a pipe for actual use, an impossible article. It is a creation of what may be called the heraldic imagination, like the Austrian two-headed eagle, or the English unicorn. Of its significance there is no question. Concerning the history of the belt, Chief Mandorong could only tell me that it was a peace-belt, representing an important treaty or alliance of ancient times. This is certainly as much as he could be reasonably expected to know of so antique a record, which, from its lack of practical interest, had long ceased to be produced and explained in the tribal council. Fortunately, the Jesuit "Relations" give us ample information concerning what we may reasonably presume to have been the time and the occasion of the treaty indicated by this belt. The letter of Father Lalemant to his superior at Quebec, narrating the events of 1639 and the following year (chapter X, page 95 of the Quebec edition of 1858), contains the following paragraphs:—"The Khionontateronon (Tionontaté people), who are called the Tobacco Nation, on account of the abundance of that herb which is grown in their country, are distant from the country of the Hurons, whose language they speak, some twelve or fifteen leagues to the westward. They have formerly had cruel wars against each other, but are now on very good terms, and have lately renewed their alliance, and made a new confederation, against some other nations, their common enemies."

The only people from whom the Tionontaté nation, in their isolated position, can have received such an important pledge of alliance, were their numerous and powerful Huron neighbours. The device may be deemed significant. The double calumets seem to have been originally eight, one having been lost from one end, as another has partly disappeared from the other extremity. It was the habit of the modern Indians, when wampum beads were needed for messages, presents, or sacrifices, to have recourse to the ancient and, so to speak, obsolete belts, which were thus gradually pillaged. It seems likely that the eight calumets had reference to the eight clans or *gentes*, who composed the Huron people, and were found in different proportions in all the tribes. These clans, called by the Algonquians *totems*, all bore the names of certain animals, with which the Indians held themselves to be mythologically connected—the bear, wolf, deer, porcupine, snake, hawk, large tortoise, and

small tortoise. Each clan was more numerous in some towns than in others, as it was natural that near kindreds should cluster together. Thus the missionary Brebeuf speaks of "the nation of the bears," among whom he resided. But all the *gentes* were closely connected by intermarriages, and a belt including them all, accompanied by a council hearth, would be understood to express the unanimous will of the Huron people. It is true that the five Iroquois nations had also eight clans, though in part differently named from the Huron clan. But it is impossible to suppose that their inveterate enemies of the Tionontaté nation can have combined in bestowing upon the latter such a pledge of amity. The belt, in its first estate, must have contained not less than three thousand beads, and must have been deemed not only an impressive record, but also a magnificent gift. It seems highly probable that the special device of the double calumet had a complimentary reference to the title and repute, on which the recipients doubtless prided themselves, of "The Tobacco Nation."

The expressions used by Lalemant in the passage quoted, "renewed their alliance," and "made a new confederation," are deserving of notice, as showing that the Hochelagan form of government, to which these expressions evidently referred, was not, as Cartier supposed, a "kingdom," but simply a confederacy, doubtless of the usual Iroquoian stamp.

2. *The "Peace-Path Belt."*—This name distinguishes a smaller belt, of which only the memory remains that it was received at the conclusion of a treaty of peace, made in ancient times between the Tionontaté nation and a people possessing three council-fires. This people can hardly have been any other than the Huron confederacy. That League did indeed include five nations, but two of them were comparatively insignificant, having each but one town, while the remaining twenty-two towns and villages of the Wendat were divided among the three larger nations. It is known from the Jesuit relations that these three nations were accustomed to act in council on behalf of the whole people. This was done in the famous nocturnal council of August, 1637, when a great assembly of the chiefs of the whole country was held to determine upon a war, and at the same time to decide the fate of the missionaries, who were accused of causing by their sorceries the pestilence which was then ravaging the Huron nations. This council, we are told by the missionary Le Mercier, in his vivid description of it (*Relation of 1638*, chapter 2), "was composed of three nations, namely, that of the Bears, our first hosts, who number fourteen towns and villages, and whose chiefs held one side of the cabin, having us among them, while

the opposite side was held by the two other nations, numbering each four well-peopled towns." According to the custom of the country, the missionaries presented to the council a gift of three or four hundred wampum beads, as an evidence of their concern for the general welfare. When their own case came up, they defended themselves against their accusers with a force of argument and appeal which secured them from immediate condemnation; and soon greater public dangers from the hostile Iroquois had alarmed the Hurons, and induced them to seek the advice and assistance of the missionaries in their own mortal peril. It was at this time, apparently, that the desire of resuming their ancient amity and alliance with their neighbours of the Tobacco Nation had arisen, of which the first evidences were the two belts that have now been described. The smaller belt would be first presented as an overture of lasting peace from the three leading Wendat nations, while the larger belt would follow when the alliance was completed.

3. "*The Jesuit Missionary Belt.*"—The belt which bears this name is probably, if judged from its size, its purport, and its history, the most remarkable and memorable wampum-belt in existence. It can only be compared in all these respects with the famous "Penn Wampum belt," which in some points it decidedly surpasses. What my informant, Chief Mandorong, knew or believed of it was that it commemorated the acceptance by the Hurons of the Christian religion, in the form in which it was presented to them by the Jesuit missionaries. The belt must have been made by Indians under missionary instructions, and in all probability in the Huron country; but of the precise occasion and circumstances of its presentation to his forefathers, and their acceptance, the chief knew nothing. The missionary reports seem to supply us with sufficient evidence on these points. In the letter of Father Lalemant, from which the paragraph relating to the treaty with the Tionontaté people has been quoted, we have a lively narrative of the trials and sufferings which befel the two missionaries, Fathers Garnier and Jogues, to whom the duty of commencing this mission to the Tobacco Nation was assigned. The season was winter and the ground was covered with snow, on which they had sometimes to make their rude couches of pine-branches for the night's sleep. The pestilence was raging, and the hostile rumours against the missionaries, as sorcerers who had brought it into the country, excited against them a frenzy of terror. Almost every door was closed against them; and sometimes when they had been reluctantly admitted, they were ordered out in the middle of the night by their terror-stricken host. The women cried out against them in horror, and the

terrified children fled from them screaming. They were able to baptize a few persons whom they found at the point of death, and finally returned safely from their venturous tour, half famished, but triumphant and hopeful.

This was in 1639. Ten years later, in 1649, we find the Tobacco Nation occupied by two missions, each under the charge of two missionaries. It was probably during this decade, and at the commencement of what were deemed the permanent missions, that the belt in question was presented by the missionaries. It was accepted by the people, not precisely as an evidence of the adoption of the new religion offered to them, but as an indication of their willingness to listen to the missionary teachings. This we may infer from the similar experience of the missionary Brebeuf, who in his report of 1636, near the beginning of the Huron mission, relates that having to address an assembly of chiefs and elders of the "Nation of the Bears," and invite them to attend to the precepts of his religion, he closed his address by presenting to them a belt of twelve hundred wampum-beads, telling them that it was to smooth for them the way to Paradise. "Such," he adds, "are the expressions which they are wont to use in making presents to assist in achieving any difficult enterprise."

Respecting the device on this belt of Brebeuf, we are told nothing; but its character may be conjectured from that of the belt which was afterwards given to the chiefs of the Tobacco Nation for a similar purpose, and which their successors have preserved for us. The figures are in white beads on a dark ground. This costly substance, as well as the size of the belt, indicates the importance attached to the gift. Near the centre of the belt is the usual oval or lozenge-shaped figure (Plate XII, 2) representing a council. In this case it must have been understood that the belt was a formal offering and overture from the whole mission council to the Tionontaté nation. By this time, at least thirteen years after Brebeuf's present, the Huron Mission, with its numerous members and lay followers and its imposing buildings, had become an important body. The members held regular councils, which led to results of serious consequences. On each side of this symbolic council-hearth are religious emblems. Nearest the hearth, on either hand, are two extraordinary figures, intended to represent the Dove and the Lamb; and beyond them are three crosses in the Greek form, understood to indicate the Trinity. Some other figures—whether of mere ornament or of some significant purport cannot now be judged—seem anciently to have closed each end, but have now in part disappeared through the loss of the beads composing them. The whole remaining device, grotesque as it seems to

our notions, formed a striking text of useful mnemonics for missionary exhortations. The belt contains fifteen rows of beads, the figures white on a dark ground, and must have comprised originally not less than three thousand beads.

4. "*The Four-Nations Alliance Belt.*"—The notable difference between this and the three preceding belts marks a wide chasm of time and a great change of locality and condition. The latest date which can be ascribed to the Jesuit missionary belt is the year 1648, the eve of the expulsion of the Hurons by the Iroquois. The date fixed for the "*Four-Nations Belts,*" by Peter Clarke, in the second decade of the eighteenth century. This belt is consequently younger than the Jesuit belt by over sixty years. During that period the Tionontaté people, now known as Wyandots, had fled from the Blue Hills of their Lake Huron Switzerland to the far west of Lake Superior, and had thence returned to the vicinity of Detroit, as already related. Here they were welcomed not only by the French garrison and settlers of that post, but also by the three Algonquian tribes who held the lands in the vicinity, the Ojibwas, Ottawas, and Potawatomies. An alliance was formed between these four nations, the terms which are carefully set forth by its Wyandot chronicler. It was mainly a treaty respecting lands, which will account for the shape of the figures. In lieu of the oval council-hearth, we have four squares, Plate XII, 6, which indicate, in the Indian hieroglyphic system, either towns or tribes with their territories, and remind us of the similar Chinese character, which represents the word "field." The "White-peoples' houses," at the ends of the belt, Plate XII, 5, signified the French forts or settlements, which protected the native tribes alike against their persistent Iroquois enemies, and against the marauding Indians of the south and west, especially the Cherokees and the Sauks and Foxes. For purposes of cultivation and of hunting, the lands about Detroit were divided into four districts, one for each nation, two districts being east of the Detroit River in Canada, and two in Michigan, west of that river; but each nation was to have the privilege of hunting in the territory of all the others. It shows the strength of a treaty established by the solemnity of a wampum belt that this compact remained in force among the four nations, in spite of wars and changes of government among their white protectors, and through all the turmoil and confusion of Pontiac's conspiracy, in which all the Indians were more or less engaged, for over a hundred years, from the first decade of the eighteenth to the fourth decade of the present century. At the latter period, the Algonquian nations had each sold a portion of its separate territory to their white neighbours. They still, however, claimed their ancient privilege in the Wyandot lands,

or a money payment in lieu of it. Against this unreasonable claim the Wyandots protested, and their protecting government, then represented by Sir Francis Head, promptly settled the matter in a whimsically arbitrary fashion, characteristic of this military-minded ruler, by not only rejecting entirely the claim of the Algonquians (except in a certain fashion those of them residing in Canada), but by deciding to sell a portion of the Wyandot lands, and to invest the proceeds partly for the exclusive benefit of the Wyandots, and partly for the behoof of the Canadian Indians in general. Thus the "Four Nations Belt" ceased to have any efficacy as a political document. It became simply an historical record, and one of no little importance, as continuing our knowledge of the Huron Annals for the full term of three centuries, from Cartier in 1535 to Sir Francis Head in 1836. This, with the subsequent time to the present date, is a longer period of authentic history than can be claimed for any other aboriginal people north of Mexico.

V.

THE PENN WAMPUM BELT.

Belt Deposited with the Historical Society of Pennsylvania in 1857 by a great-grandson of William Penn—Supposed to Record a Treaty made with the Delaware Indians in 1682—Evidence of its Iroquois Origin—Symbolic Inscription—Probable Date and Occasion of its Presentation to Penn.

Our study may be further illustrated and its usefulness shown by some account of a very celebrated wampum record, to which reference has already been made. This is the "Penn Wampum Belt," Plate XIII, 3, which is preserved in the archives of the Historical Society of Pennsylvania. A *fac-simile* of this belt is given in the sixth volume of the memoirs of that Society (for 1858), together with a record of the very interesting proceedings that took place at the presentation of the belt to the Society in April, 1857, by Mr. Granville John Penn, the great-grandson and one of the heirs of the illustrious founder of Pennsylvania. In the address which was made on the occasion by Mr. Granville Penn are set forth with much persuasive force his reasons for believing that this is the identical belt which was given to his ancestor by the Indian chiefs "at the great treaty held in 1682, after his arrival in this country, confirmatory of the friendly relations which were then permanently established between them." "That such is the case," continued Mr. Penn, "there can exist no doubt, as (though it has come down to us without any documentary evidence) it plainly tells its own story; and

in accordance with the resolution passed by the Society at its last meeting, I beg to offer the following observations in evidence of the fact. In the first place, its dimensions are greater than of those used on more ordinary occasions, of which we have one still in our possession—this belt being composed of eighteen strings of wampum—which is a proof that it was the record of some very important negotiation. In the next place, in the centre of the belt, which is of white wampum, are delineated in dark-coloured beads, in a rude but graphic style, two figures, that of an Indian grasping with the hand of friendship the hand of a man evidently intended to be represented in the European costume, wearing a hat; which can only be interpreted as having reference to the treaty of peace and friendship which was then concluded between William Penn and the Indians, and recorded by them in their simple but descriptive mode of expressing their meaning by the employment of hieroglyphics. Then the fact of its having been preserved in the family of the founder from that period to the present time, having descended through three generations, gives an authenticity to the document which leaves no doubt of its genuineness; and as the chain and medal which were presented by the Parliament to his father, the Admiral, for his naval services, have descended among the family archives unaccompanied by any written document, but are recorded in the journals of the House of Commons, equal authenticity may be claimed for the wampum belt confirmatory of the treaty made by his son with the Indians; which event is recorded on the page of history, though, like the older relic, it has been unaccompanied in its descent by any document in writing."

But it may be observed that the "older relic," the Admiral's medal, doubtless had an inscription, which alone would have sufficed to identify it. The wampum belt had also its inscription, which, if its purport had been known in 1857, either to the generous presenter or to the grateful recipients, would have satisfied them that the belt could not have been that which they, with such apparently good reasons, naturally supposed it to be. This inscription did not, in fact, escape notice at the time. The Society's official reporter, in describing the belt, remarks that "there are three bands, also worked in violet beads, one at either end, the other about one-third the distance from one end, which may have reference to the parties to the treaty, or to the Rivers Delaware, Schuylkill, and Susquehanna." The conjecture that these bands "had reference to the parties to the treaty" was a sagacious one, and was undoubtedly correct. At the first sight of the belt, when it was shown to me at a later day by the obliging officials of the Society, I was able to assure

them that the belt could not possibly have been presented to William Penn, at the treaty of 1682, inasmuch as that treaty was made with the Delaware (or Lenâpé) Indians, while the belt is unquestionably of Iroquois origin, and must have been presented by some representative of the Five Nations. The oblique bands are the well-known symbol of the federation. The origin and meaning of the symbol are well understood among the Indian tribes. The confederacy was known as the "Long-House," a metaphor which in their speech was carried out in minute particulars. The ordinary Iroquois communal dwelling, called a "long-house," was constructed by planting on each side of the site of the intended edifice a row of strong "frame-poles," which, after rising to a certain height, were bent inward to meet and form between the rows a long covered hall, like a garden arbour, to which it has been frequently compared. This hall was divided by transverse compartments into separate dwellings for the different households. These frame-poles were bound together by smaller interlacing poles and withes, and the whole framework, on sides and roof, was carefully covered with closely fitted strips of bark (answering to our siding-boards and shingles) leaving only an opening along the centre of the roof for the smoke to escape from the fire-hearths below, of which there was one for every two households. The large bent frame-poles were known to the natives by the name of *kanasta*, a word which they render in English by "rafter." This is the object which is represented on wampum belts by the inclined band, and which is deemed, by a natural synecdoche, the symbol of their confederacy. Thus the Iroquois league is spoken of in their Book of Rites as *kanasta-tsikowa*, "the great framework." It was this mighty structure, which, when the belt in question was given, overshadowed the greater part of North America, that was indicated by the oblique bands. That there might be no question on this subject, I showed the *fac-simile* in the book to my intelligent friend, Chief John Buck (*Skanaewati*), the leading chief, and one of the best informed men of the Six Nations, and asked his opinion of it. He affirmed, without hesitation, that it was an Iroquois treaty belt, though on what precise occasion it was given there was nothing to show.

The occasion when it is probable that this belt was given seems, however, to be sufficiently shown in the "Colonial Archives of Pennsylvania," vol. i, p. 144, which record a treaty made between William Penn and the chiefs of several nations of Indians, who united in confirming all former cessions of lands, and in establishing a "firm and lasting peace," so that, as the written treaty declares, in words evidently suggested by Penn himself, they "shall forever hereafter be as one head and one

heart, and live in true friendship and amity as one people." Among the names of the contracting chiefs who represented their several nations, special prominence is given to "Ahoakasough, brother to the Emperor or Great King of Onondagoes of the Five Nations, who had arrived in town (Philadelphia) two days ago, with several others of their great men, and Indian Harry for their interpreter." A delegation of this character would not have attended a treaty conference without bringing unquestionable credentials, such as a belt like this would have furnished. Mr. Frederick B. Stone, of the Pennsylvania Historical Society, in his elaborate paper on "Penn's Treaty with the Indians," published by the Society, says of the treaty of 1701:—"This treaty seems to have been a very formal affair, and certainly it was a most important one. We do not doubt that tradition has in some manner confounded what was done at it with the earlier treaty which Penn's letters of August 16, 1683, tell us had been held."

At this date, as Lawson has informed us, the machine-made wampum had not been accepted by the natives, and we are not surprised to find in the carefully lithographed *fac-simile* abundant evidence of the "pains and labour" expended by the natives in the manufacture of the hand-made beads, and in wearing them with bark filaments in a belt of the extraordinary width of eighteen rows, making it undoubtedly one of the most important and characteristic of aboriginal treaty records.

VI.

GENERAL CONCLUSIONS.

Evidences of a Real Civilisation in Aboriginal America—Intellectual and Moral Qualities Indicated—Probable Error of some Ethnologists and Possible Disastrous Results.

It will be noticed that each of the five wampum belts here described has its distinct device or inscription, and that these devices have for the most part passed beyond the stage of picture-writing and become conventional characters, analogous to those of the Chinese script and to a large portion of the Egyptian hieroglyphics. The only instances of mere picture-writing in the five belts are the two men with joined hands on the Penn belt and the "white people's houses" on the Huron "Four Nations" belt. If the three conventional devices on the Jesuits' belt are of missionary suggestion, the five different symbols on the other four belts—the oval figure indicating a tribal council, the square representing a nation, the double-calumet for a treaty of alliance, the white line for an assurance of peace, and the inclined bands signifying the Iroquois con-

federation—are all of purely native origin, and are employed in a manner which shows a clear appreciation of the value of written language, highly creditable to the inventors. It may be noticed that we have nothing positive in the Homeric poems or in the results of modern excavations to show a similar advance in the Greeks of the Homeric Age,—and this despite their near proximity to the Egyptian and Assyrian literary civilisations. It should further be considered that the formal exchange among the Indian nations of documents so constructed and inscribed as to be permanent records of treaty compacts, is a custom which could only have arisen in communities among whom the keeping of good faith was a general habit and in public matters a confirmed tradition.

The extent and frequency of the use of this method of conveying messages and recording compacts are deserving of notice. The Iroquois ambassador Kiotsaton, who in 1645 came to Quebec to conclude a treaty of peace with the Governor, Montmagny, as recorded in the Jesuit Relation of that year, delivered seventeen wampum belts, each having its own distinct significance and consequently its own special device. Later in the same year another embassy followed to confirm the treaty and extend its terms so far as to include all the Indian allies of the French. On this occasion twenty-two belts were presented, each bearing its separate message. The Colonial Records of Pennsylvania describe many treaties between the Iroquois and various southern nations, accompanied by the delivery of belts. In vol. ii of these Records, p. 246, there is an account of "a very large wampum belt of twenty-one rows, with three bands [evidently the symbolical *kanasta*] wrought in it in black (the rest white), which belt was a pledge formerly delivered by the Onondaga Indians, one of the Five Nations, to the Nanticokes, when they made the said Nanticokes tributaries." On a later page (387) we read of the same Nanticokes, who had then (in 1707) been twenty-seven years at peace with the Five Nations." They had nineteen belts of wampum then prepared to send to the Five Nations as a tribute. At page 471 the Ganawese Indians, in an interview with the Colonial Council, "lay on the table of the Council a belt of wampum to enforce their words," and at the same time state that they had twenty-four belts provided as a tribute to the Five Nations. In vol. ix of the Records, page 774, there is an account of the then "Six Nations" with the Catawbas and other southern nations, at which the latter gave twenty belts and many strings of wampum. Mr. Holmes gives particulars of many similar Councils, and pictures of several notable belts, each having its own special inscription. The American Colonial

Archives and Missionary Reports of the seventeenth and eighteenth centuries abound with similar notices. If only a tithe of all the belts then presented, with the significance of their mnemonic devices, had been preserved, it would constitute a literature of aboriginal diplomatic records of which the great historical and ethnological value would not be disputed.

The facts adduced in the foregoing pages seem to lead to some further inferences which are deserving of careful and candid consideration. It is apparent that when the Spanish, English, and French colonists arrived in America, with the intention of taking possession of the land—which necessarily meant the extermination of the native inhabitants—they found these inhabitants enjoying frames of government and forms of civilisation which evinced intellectual and moral faculties of no mean order. These statements are not only true of the populous communities of Peru, Mexico, and other central and South American countries, but in some respects will apply with even greater force to the tribes of North America, who then occupied what are now the United States and Canada. Here we find a real money, which, if it had not all the characters of a true currency, approached it very nearly, and offered many of its advantages. We find the elements of a written language, widely diffused, and employed especially in preserving, with happy effect, the memory of treaties of peace and alliance. And we find established systems of government, so devised as to preserve for centuries the personal liberties and tribal independence of the communities maintaining them. We find also, according to the testimony of all the early explorers, a degree of generally diffused comfort throughout the greater portion of the native population, not inferior to any that has existed in other parts of the globe.

If scholars who have made what they deem a careful and impartial study of the languages, customs, and traditions of the American race and of other so-called inferior races, have found in them, as they believe, evidences of natural endowments not inferior to those of any other races, but merely kept down and made torpid by centuries and perhaps millenniums of unfavourable environment, they may be entitled to suggest, by way of friendly warning, that other students who take a contrary view, and devote themselves to the agreeable and popular taste of exalting the race to which they themselves happen to belong as naturally superior to all others, may be as sadly mistaken as the Chinese sages have been in the like circumstances, and may be helping to prepare for the future millions of the self-sufficient and intolerant Aryan race the same deplorable destiny that is now overtaking the self-sufficient and intolerant millions of China.

THE HALE SERIES OF HURON WAMPUM BELTS.

Notes and Addenda. By Prof. E. B. TYLOR, D.C.L., F.R.S.

WHILE writing these remarks, I received with regret but hardly surprise the intelligence of Mr. Hale's death. The tone of his letters for months past had been that of a man looking toward the end of his work in life, and anxious to settle finally all matters he had much at heart. Among these were his investigations into the history of his friends the Iroquois and Hurons, to carry out which he had given so much labour, and of which his last studies, undertaken to elucidate their native records, form a fit completion.

The "Hale Series of Huron Wampum Belts," which lately passed into my hands, have been presented by me to the Oxford University Museum, where they are now placed in the Pitt-Rivers Collection. In bringing before the Anthropological Institute the long and careful paper written by Mr. Hale to accompany this group of American Indian records, illustrations were needed, the principal of which are here reproduced in Plates XI, XIV, and Figs. 1 and 2. I also found it desirable for clearing up points in the paper, and in support or criticism of the writer's views, to add a number of remarks. These, with others arising from questions raised in further correspondence with Mr. Hale, are now appended, reference being made to the passages of the paper with which they are connected.

Wampum Beads and Belts (page 233).—The different modes of fashioning wampum, serving as they do to determine its date and origin, require further consideration here. After

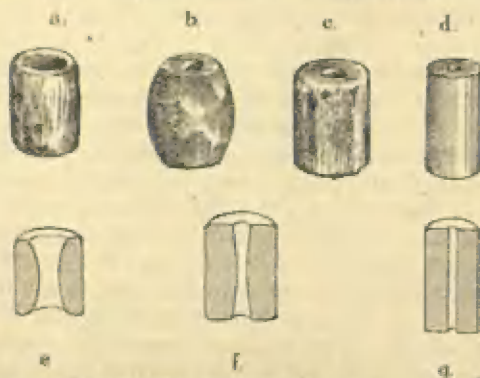


FIG. 1.—a, e, ground bead, native make, probably stone drilled, Canada; (Dr. Dawson). b, c, f, rudely ground beads, probably awl-drilled; from Missionary Belt, Plate XI, 3. d, g, machine-turned and drilled bead; European make.

going somewhat carefully into the matter with Mr. H. Balfour, I have drawn up the following particulars in which we agree. As to the outside shaping of the beads there are two kinds. The more ancient beads were made by rubbing down a fragment of shell on a stone till the facets united in a fairly regular outline, Fig. 1, *a, b, c*; the modern beads, *d*, received their cylindrical shape by turning in a lathe. This classification by the outside distinguishes native-made beads from those made in the colonial workshops, but it does not show whether those of native make date before or after the coming of the white men. This, however, may be to some extent learnt from the mode of boring. Before European times, the Indians no doubt bored their shell-beads by means of a chipped point of flint or other hard stone, fixed to a stick which they twirled between the palms of the hands. It is obvious that their mode of drilling hard stone by means of a stick or reed with sharp sand, though suitable for boring holes half an inch or more in diameter, was quite impracticable for perforating wampum. Only boring with the flint point would serve, and that only for short beads. It is seen by specimens of beads of the Stone Age found in the older Indian graves, and even by such ancient beads as are still worn in Indian necklaces, that cylinders and even thin discs of shell were perforated from both ends, the two conical borings meeting in the middle. This is indicated by the diagram *e* in the figure, showing the perforation of the shell-bead *a*, one of some genuine stone age beads from Indian graves, of which selections have been kindly sent to me from Canada by Dr. G. W. Dawson and by Mr. David Boyle. When the goods of the white traders came within reach of the Indians, European tools must have begun to supersede the flint point. A tempered steel tool was needed to bore the shell of the quahaug or hardshell clam, *Venus mercenaria*, from which all the purple wampum beads and a great part of the white were made, other white beads being from the columella of univalves such as the whelk-like *Fulgur carica*. The hardness of this material is seen from the fact that though a steel blade will scrape the clam-shell, an ordinary soft iron nail writes on it like a pencil. Indeed the hardshell clam seems to have become typical of stubbornness, perhaps having even suggested the popular names of the Hardshell Democrat and the Hardshell Baptist. There is a remark by Roger Williams who, writing in his Vocabulary of 1643, incidentally records both the original use of the stone drill for boring the shell beads, and its supersession by the European awl. He writes, "before ever they had awle blades from Europe, they made shift to bore their shell money with stones."¹ The awl may have been fastened to a stick and twirled between

¹ Roger Williams, "A Key into the Language of America," p. 144.

the hands, or it may have been worked with the pump-drill, such as in Europe china-menders still use for their very similar purpose. The use of this instrument, easily made from pieces of wood and string, seems to have been learnt from the Europeans by the natives far and wide in America; for instance, it may still be seen among the Zuñis of New Mexico. The diagram *f*, representing the boring of the ground beads *b* and *c*, fairly represents the result which the Indian reached in the 17th century by the use of European tools. The slightly conical borings due to an ill-centred metal drill, and still made from both ends to meet in the middle, distinguish the beads of this period from both the first and last kinds. Finally, we come to the ordinary product of the Dutch and English wampum factories. These are the machine turned and drilled shell-beads shown by *d* and *g* in the figure, in their dimensions like $\frac{1}{4}$ -inch lengths of a common clay tobacco-pipe.

Applying this criterion to the wampum belts which form the subject of Mr. Hale's paper, Mr. Balfour and I fail to find in them any stone-bored beads, which is equivalent to saying that they belong to the European period and cannot be much earlier than 1600. The Huron belts, Plate XI, 1, 2, 3, consist of ground and apparently awl-bored beads, even the most symmetrical not seeming to be turned. They may thus be assigned to a time when the Indians had already begun to obtain European steel tools which they could convert into suitable drills, but when factory-made wampum had not come in. Now about 1611 Father Biard describes the Indian tribes as coming in summer by the River St. Lawrence to barter their furs against French wares, among which are specially mentioned awls and bodkins.¹ Thus there is no chronological objection to these belts being referred to events about 1640, a date at which the Indians were well supplied with such tools. The belt 4 is as certainly of factory-made beads, probably of the 18th century.

As to the other belts only known to me by pictures such as those figured by Prof. W. H. Holmes in his valuable account,² and even the Penn Belt (Plate XIII, 3) of which so large and careful a representation has been published by the Historical Society of Pennsylvania,³ I do not think it desirable to express any opinion from this point of view. Even large photographs are insufficient to give the requisite details. But no doubt the anthropological interest attaching to the questions raised by

¹ "Relations des Jesuites dans la Nouvelle France." Quebec, 1658, vol. i, p. 7. 1611. See also Jacques Cartier's "First Voyage."

² W. H. Holmes, "Art in Shell of the Ancient Americans," in "Second Report of the Bureau of Ethnology," Washington, 1883, p. 185.

³ "Contributions to American History," Philadelphia, 1858.

Mr. Hale will lead to all such important wampum belts being examined with a view to settling their dates approximately from their make. Especially if there exists anywhere a wampum belt made of stone-bored beads, or even of stone-bored and awl-bored beads mixed, it will be heard of. There is at present no known wampum belt which appears to have been made before the European period in America.

The Iroquois Oblique Band (p. 244).—The statement that the oblique band on a wampum belt is the symbol of the Iroquois Confederacy, was brought forward so far as I know for the first time by Mr. Hale in his paper read at the British Association at Montreal in 1884. In his present paper it is reinforced by the substantial authority of two chiefs well versed in Iroquois tradition—G. H. M. Johnson (Onwanonsyshon), the Government interpreter, and John Buck (Skanawati), the official keeper of the wampum, whose father, grandfather, and great grandfather had held the same office. As, however, the point seemed one on which all available evidence should be collected, I made a further communication to Mr. Hale, who then sent a photograph which he had had taken of the belts belonging to the Six Nations, here reproduced in Plate XIII (*a*). Some of the belts are those held in the hands of the chiefs photographed for Mr. Hale in the act of telling the wampum, Plate XIV, 3. The fact that about half these most genuine Iroquois belts have the oblique band, confirms the statement that it belongs to the Iroquois League.

The oblique band thus being considered a conventional representation of the *kanasta* or rafter of the *kanasta-tsikowa*, or great rafter framework, a name applied to the Iroquois League as symbolized by the native long-house extended by successive additions at the end, it becomes desirable to notice how far the band is like the actual rafter of such a structure. For this purpose two sketches of the Iroquois bark-house are given, Fig. 2, *a*, *b*. Here *b* shows the modern Europeanized form from

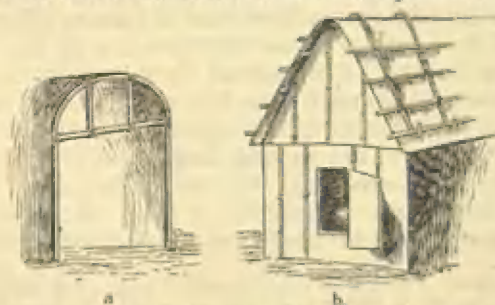


Fig. 2.—Iroquois bark-house : *a*. Old form. *b*. Europeanized.

Morgan.¹ The older and characteristic Iroquois house of the two preceding centuries is represented in *a*, from one of the illustrations in Lafitau, which shows an Iroquois bark-cabin with the screen forming the end removed. The roof is formed by bending over flexible poles made fast to the tops of the upright stakes at either side, and covering them in with sheets of bark. Traces of this older structure are to be still seen in the flexible pole, holding down the bark sheets in *b*. Lafitau considered the form of the cabin *a* to belong especially to the Iroquois-Huron family and their neighbours who copied it from them. If so, the adoption must have begun long before his time, for these are the houses in which, as early as 1585, the Algonquian tribes of Virginia are represented as living. Mr. Hale's description of the stakes set in the ground and bent over to meet in the middle so as to be wall-posts and rafters in one, though this structure is not unknown, can hardly have been the typical form of the Iroquois long-house at least in times after the League. It is thus not quite clear what part of the structure the Iroquois depicted by the oblique band.

The Penn Treaty (page 242).—Though the well-known picture by Benjamin West was painted many years after Penn's arrival in the colony, it seems to have been studied with care, and may fairly be taken to represent what the scene was like in colonial memory. It corresponds with Penn's own account, in which there is mention of gifts and friendly speeches, but none of the wampum ceremony. A small copy of the picture is here given (Plate XIV, 1), in order to contrast it with Lafitau's picture of a treaty council where a wampum belt is delivered (Plate XIV, 2). This, conventional as the figures are, no doubt fairly represents how one of these highly ceremonial acts was really performed.

Origin of the Wampum Belt.—In the last letter I received from Mr. Hale, November 12th, 1896, he mentioned that whereas he had hitherto declined to accept the positive assurance of the Iroquois councillors that Hiawatha (Hayunwatha, "Wampum belt maker") was the inventor of the wampum belt, this was because he understood them to mean that he first made wampum, which seemed to him an incredible statement. But since he wrote the foregoing memoir he had come to understand that they ascribed to him simply the invention of the woven belt, as a credential for his ambassadors of peace. Accepting the Iroquois tradition in this form, he wrote a paper which was read at the American Association in August,

¹ L. H. Morgan, "League of the Iroquois," p. 3. See also Morgan, in "Contributions to N. A. Ethnology," vol. iv, p. 64. Lafitau, "Mœurs des Sauvages Américains," vol. ii, p. 9, 80-314.

1896. This paper will be found in the "Popular Science Monthly," February, 1897, under the title "Indian Wampum Records." The acceptance of Hayuñwatha as the inventor of the wampum belt involves the argument that the name, derived from Ayuñwa = "wampum belt," and Katha = "to make," was a honorific name given to him in commemoration of his heroic deeds. Otherwise the evidence is substantially unchanged.

Such a tradition involves no impossibility, but it may be objected that considering how many obvious fables have centred in Iroquois legend round the name of their national hero, it is too much to accept as real history the details of his foundation of the Iroquois League. The added belief that he invented the art of using the native shell work as a means of pictorial record, now comes apparently for the first time to European ears. Granting that it is now Indian tradition, a period estimated at over four centuries is a long time for such tradition to run clear unless supported by material records. Even if there were undoubted wampum belts dating from the beginning of the League, the traditions talked into them might have given more solid ground of history. The Onondaga wampum belt figured in Plate XIII, 2, showing four tribes united by one heart, has been claimed as recording the formation of the League. But Mr. Beauchamp, a good judge, considered the beads too regular to be hand-made. If so, it is some 250 years later than the date assigned to the League, yet Mr. Beauchamp declares that it is considered the most ancient, and to record the foundation of the League, so that it may be called a kind of constitution, and is venerated accordingly.¹ If now it be determined finally by close inspection whether this belt is of beads stone-drilled or steel-drilled, hand-ground or machine-ground, we shall have a good opportunity of estimating the historical value of Indian tradition. Mr. Hale himself shows (p. 234) how fallible it may be. Until this and other examinations are made, it would, I think, be premature to discuss what individual Indian was the inventor of wampum belts.

Apart from this historical question, however, I would suggest in conclusion that there is an anthropological problem in which evidence is available, and seemingly tending toward a conclusion up to a certain point in the same direction with Mr. Hale's argument. Any student who examines the information which has been printed as to wampum belts will, I think, be curiously struck with the fact that almost all of it is Iroquois. What little relates to other peoples, especially in early times, is found among neighbours of the Iroquois under their influence

¹ W. H. Holmes, *l.c.*, p. 252; W. M. Beauchamp in "American Antiquarian," vol. ii, p. 328; H. Hale in "Popular Science Monthly," Jan. 1896.

and likely to borrow their customs. A map of the region of the wampum belt will be found to centre in the Iroquois country, leading to the inference that it was there that it had its origin.

DECEMBER 14th, 1896.

Special Meeting.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The following papers were read:—

"The Tyrrhenians in Greece and Italy." By Dr. OSCAR MONTELIUS.

"Pre-classical Chronology in Greece and Italy." By Dr. OSCAR MONTELIUS.

Messrs. A. EVANS, J. L. MYRES, LEWIS, PHÉNÉ, and RIDGWAY, and Mrs. STOPES took part in the discussion.

The TYRRHENIANS in GREECE and ITALY.¹

By Prof. OSCAR MONTELIUS.

[WITH PLATES XV TO XXX.]

FROM the old centre in the valley of the Euphrates, a very high civilisation in a comparatively early period reached the western coasts of Asia and the south-eastern parts of Europe.

On the way from the Euphrates to the Mediterranean we find the Empire of the Hittites, occupying Syria and a great part of Asia Minor. By this people the Oriental civilisation had been brought much nearer to Europe than in the times when this culture was confined to the Chaldeo-Assyrian territories; and it is natural to suppose that, when this civilisation reached the coasts of Asia Minor, it must have had a tendency to go farther west, to spread over the isles in the *Ægean* Sea and the coasts of Greece. We find also on these isles and these coasts, in a very remote period, the remarkably high civilisation,

¹ The same ideas have been expressed by the author in the meeting of the Swedish Society for Anthropology and Geography, October 20th, 1893.



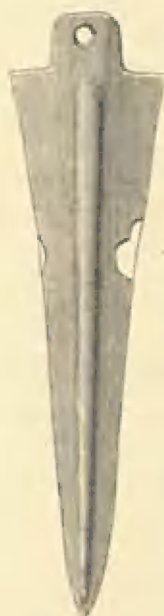
1. Flint.



3. Copper.



2. Flint.



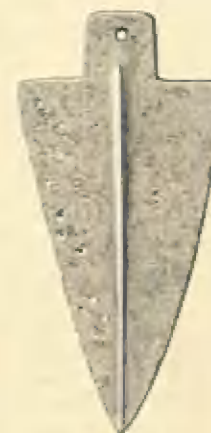
4. Copper.



5. Silver.



6. Copper.



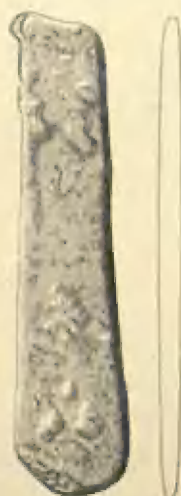
7. Copper.



8. Stone.



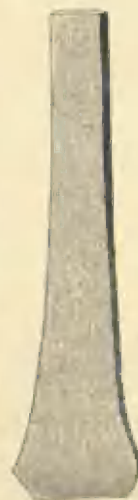
9. Stone.



10. Copper.



11. Copper.



12. Copper.



13. Copper.



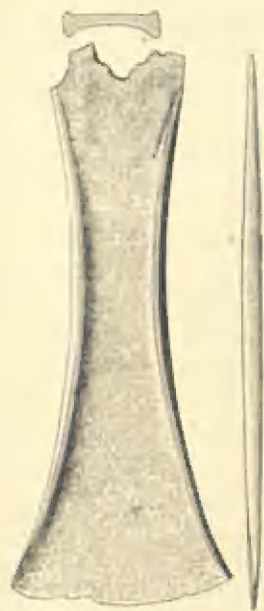
14. Copper.



15. Copper.



16. Copper.



1. Bronze.



2. Br.



3. Br.



4. Br.



5. Br.



6. Br.



7. Br.



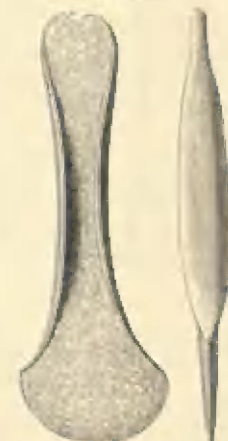
8. Br.



9. Br.



10. Br.



11. Br.



1. Flint.



2. Bronze.



3. Br.



6. Br.



7. Br.



8. Br.



9. Br.



10. Stone.



4. Br.



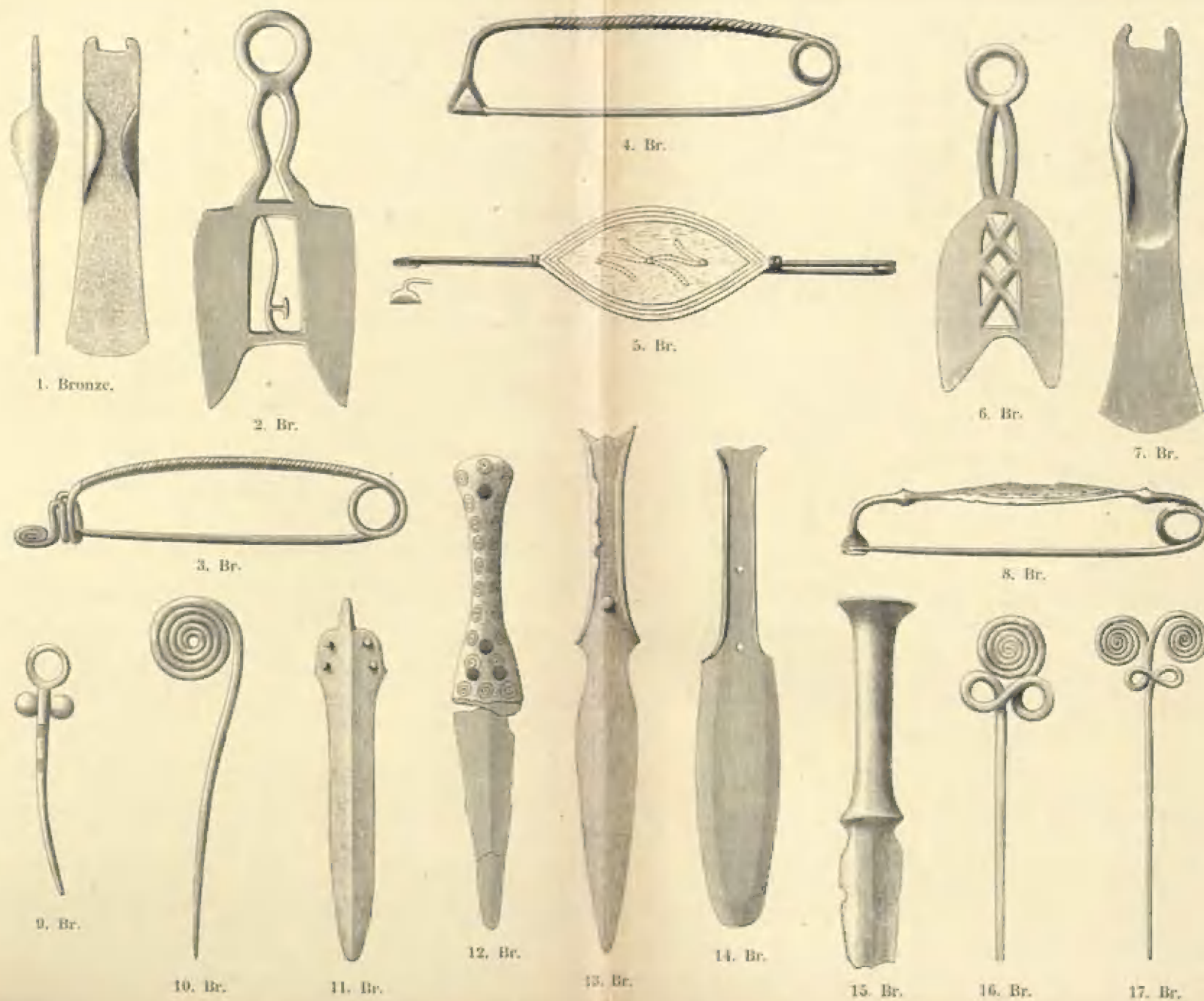
5. Br.



11. Br.



12. Br.



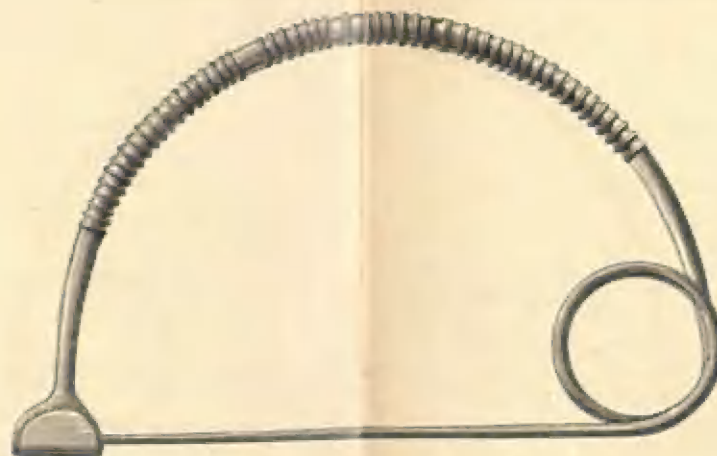
NORTHERN AND CENTRAL ITALY.

Bronze Age. Period IV:1 (1350—1200 B. C.).

Pl. 5.



1. Bronze.



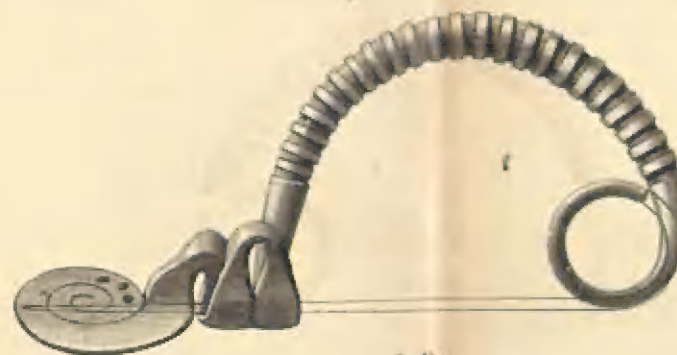
2. Br.



3. Br.



4. Br.



5. Br.



6. Br.



7. Br.



8. Br.



9. Br.



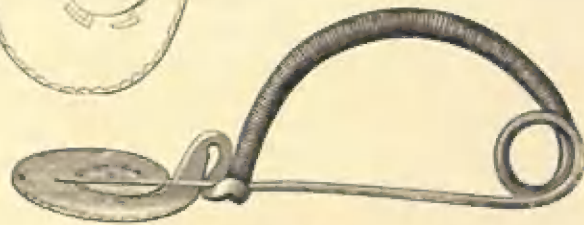
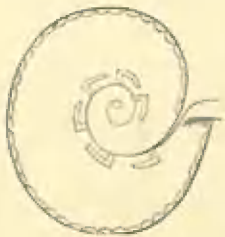
NORTHERN AND CENTRAL ITALY.

Bronze Age. Period IV:2 (1200—1100 B. C.).

Pl. 6.



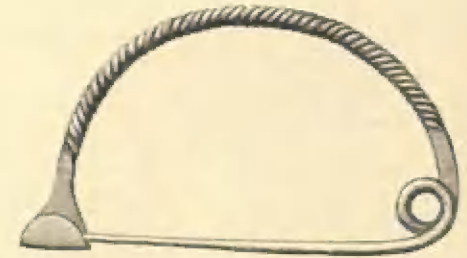
1. Bronze



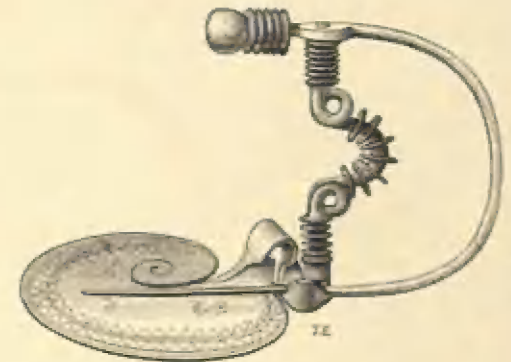
2. Br.



3. Br.



4. Br.



5. Br.



6. Pottery. (Only in Central Italy.)



7. Pottery.



8. Pottery. (Only in Central Italy.)

NORTHERN ITALY.

Iron Age. Period I (1100—950 B. C.).

Pl. 7.



1. Bronze.



2. Br.



3. Br.



4. Br.



5. Br.



6. Br.



7. Br.



8. Br.



9. Pottery.



10. Pottery.



11. Pottery.

NORTHERN ITALY.

Iron Age. Period II (950—750 B. C.).

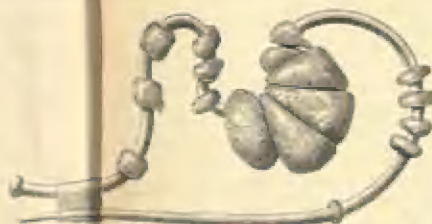
PL. 8.



1. Bronze.



2. Br.



3. Br.



4. Br.



5. Br.



6. Br.



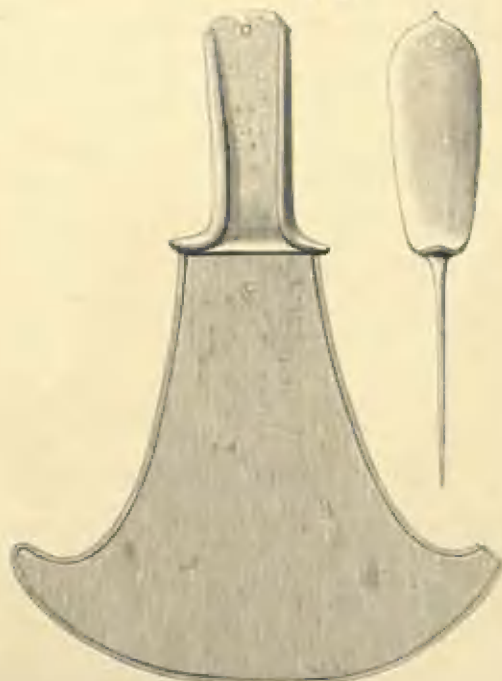
8. Br.



9. Br.



7. Br.



10. Br.



11. Br. and iron.



12. Pottery.



13. Br.

NORTHERN ITALY.

Iron Age. Period III (750—550 B. C.).

Pl. 9.



1. Bronze, amber, bone.



2. Iron.



3. Br.



4. Br.



7. Br.



4. Br., glass.



6. Br.



10. Br.



8. Br.



9. Pottery.



11. Pottery.



12. Br.



13. Pottery.

NORTHERN ITALY.

Etruscan (550—400 B. C.).

Pl. 10.



1. Alabaster.



2. Glass.



3. Glass.



5. Silver.



6. Br.



7. Br.



8 a. Redfigured.



4. Bronze.



8 b. Redfigured.



9. Redfigured.



10. Blackfigured.



11. Blackfigured.



12. Redfigured.

CENTRAL ITALY.

Proto-Etruscan. Period I (1100—1000 B. C.).

PL. 11.



6. Br.



1. Bronze.



2. Br.



3. Br.



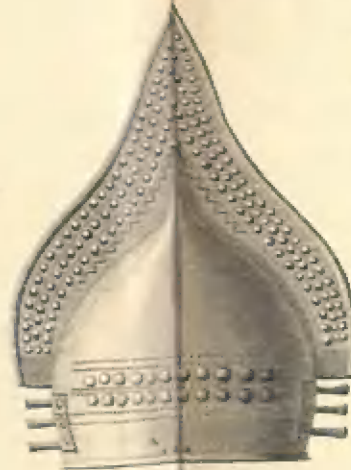
4. Br.



5. Br.



7. Pottery.



8. Br.



9. Pottery.



10. Br.



11. Pottery.



12. Br.



13. Br.



14. Painted pottery.

CENTRAL ITALY.

Proto-Etruscan. Period II (1000—900 B. C.).

Pl. 12.



1. Bronze.



3. Painted pottery.



4. Br., amber.



2. Br.



6. Painted pottery.



7. Pottery.



8. Painted pottery.



5. Silver.



9. Painted pottery.



10. Br.



11. Painted pottery.

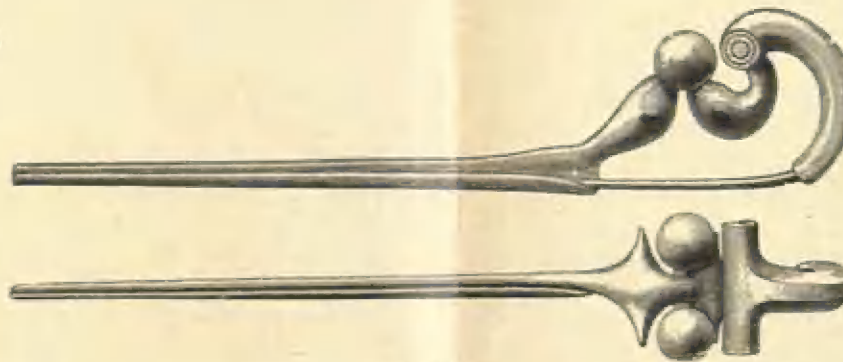
CENTRAL ITALY.

Etruscan. Period I (900—800 B. C.).

Pl. 13.



1. Painted pottery (Skyphos).



2. Gold.

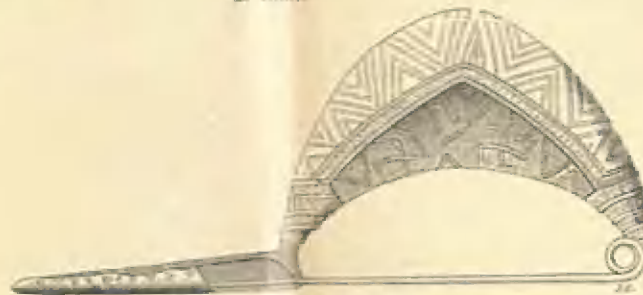


AIΘAVIM

3. Silver (Skyphos). Etruscan inscription.



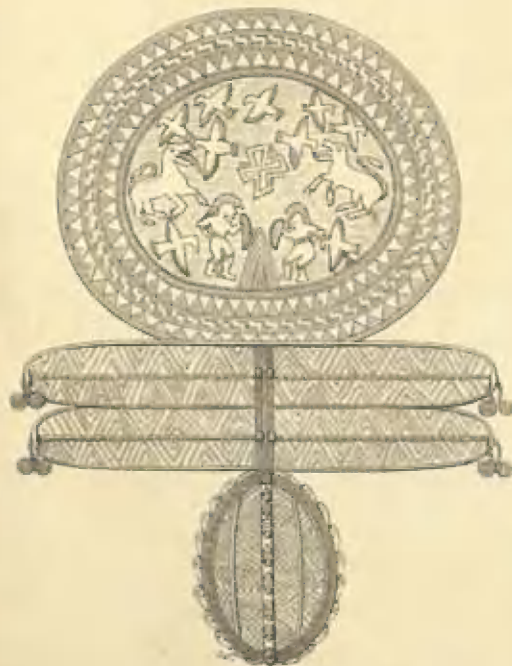
4. Bronze.



5. Gold.



6. Br.



7. Gold.



8. Silver.



9. Black pottery (Bucchero nero).



2. Pre-Korinthian.



1. Gold.



3. Pre-Korinthian.



4. Korinthian.



5. Pre-Korinthian.



6. Pre-Korinthian.



7. Pre-Korinthian.



8. *Bucchero nero*.



9. Korinthian.



10. Pre-Korinthian.

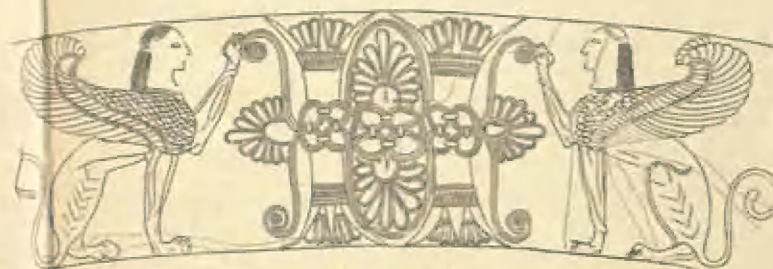


1. Corinthian.



2. Korintho-Attic.

(The figures of the broadest zone are drawn from another vase.)



4 b. François Vase.



4 a. François Vase.



3. Amphiaros Vase.



4 c. François Vase.



1. Blackfigured (Exekias).



2 b. Blackfigured.



2 a. Blackfigured (Teson).



3 a. Redfigured (Epiktetos).



3 b. Redfigured.

which was first discovered by Dr. Schliemann, and with which we have been familiar for the last twenty years, under the name of the Mycenaean.

The remains of this Mycenaean civilisation consist of the ruins of cities and tombs with their contents. In the city we find the citadel with the palace for the king, protected by walls of enormous stones, as at Tiryns, and accessible through strong gates like the Lion Gate in Mycenæ. The weapons and implements found in these cities and tombs are not of iron, but of bronze, or sometimes of stone. Thus, so that we have still to do with the pure *bronze age*, but yet with a far more advanced bronze age than in the other parts of Europe: with architecture, sculpture, and painting; with columns and vaults; with sculptured and engraved stones; with painted walls and painted pottery; with gold, silver, amber, alabaster, and lapis lazuli, with engraved gems, and the beginnings of an art of writing, as Mr. Arthur Evans has lately discovered.

These remains are principally to be seen in the isles and the coasts of Greece, and there is no difficulty in proving that this civilisation is *not* an indigenous one; it is not the direct continuation of the immediately preceding stage. It is evidently something foreign coming from another country.

The shape of the graves and their contents are new. Before that time the bodies were deposited in a little cavity, hollowed out in the ground, and lined with stones. In the Mycenaean period, the tombs are either large "*fosse*"—like the tombs discovered by Schliemann in the Acropolis of Mycenæ—or chambers accessible through a door on the side; the bodies were, as before, deposited unburnt. Most of the weapons, implements, personal ornaments and pottery placed in these graves are quite different from those belonging to the preceding period, but a great number of them resemble those found in the East.

Thus it is evident that the Mycenaean civilisation in Greece is due not only to an influence from another country, but to the immigration of a new people. That this people—or at least the great majority of the immigrants—came from Asia Minor is proved by the important fact, which however has not been sufficiently noticed, that the Mycenaean tombs are of the same kind as those common in Asia Minor, but are different from the characteristic Phœnician grave, which is a vertical shaft with a chamber opening on its side at the bottom.

The lions on the famous gate of Mycenæ and numerous other objects point also in the direction of Asia Minor, because similar remains have been discovered there, but do not exist in Phœnicia or Egypt.

The close relation between the inhabitants of Greece and the western parts of Asia Minor in those times is also proved by the numerous localities in both countries bearing already in the pre-classical time the same names. Among the most remarkable names of that kind are those of Olympos, Ida and Larissa.

On the other hand, there are in the Mycenæan remains many traces of a frequent intercourse with the Phœnicians and with Egypt.

The Mycenæan epoch in Greek history was a very long one. We can now—especially with the help of the pottery—distinguish four different periods, and we know that the later part of the 3rd period corresponds with the 15th century. This is proved, in the most indisputable way, by repeated discoveries in Greece and in Egypt itself of Mycenæan pottery of the later part of the 3rd period together with inscriptions bearing the name of the Egyptian king Amenophis or Amenhotep III and his queen Ti, who belonged to the XVIII dynasty and the 15th century B.C. This has also been confirmed by other combinations between the period in question and the XVIII Egyptian dynasty.

To this stage belong most of the grave-chambers at Mycenæ, Orchomenos, Vaphio and others; the graves discovered by Schliemann in the Acropolis of Mycenæ, with their unusually rich contents, of gold and weapons, are earlier.

Thus more than 1500 years B.C. there must have been an immigration of a new people into Greece, a people with a higher civilisation than that of the old, more barbarian inhabitants. The immigrants principally occupied the isles and the coasts. Nothing indicates that they expelled or annihilated the whole body of the former possessors of the country. It was most probably something in the same way as here in England and in France, when the Romans came: these occupied the country, they introduced there a higher civilisation than the old one, but their number was much inferior to that of the old inhabitants who remained after the occupation.

The immigrants into Greece came from Asia Minor, probably for the most part from Caria, Lydia, and other districts of the western coast. They were influenced by the Hittite civilisation, but it is not my meaning that they were themselves Hittites, properly speaking.

Greek tradition has much to relate about Pelops, the Kyklopes and others who in early times came to Greece from Asia Minor, and about a foreign people living then in Greece and possessing a very high civilisation. They are named Pelasgians or Tyrrhenians, and sometimes Carians or Leleges. All these names are found not only in Greece—especially in the isles

and the coasts—but also in the western part of Asia Minor. There can be no doubt that the Pelasgians or Tyrrhenians were the bearers of Mycenaean civilisation.

It has been generally supposed that the Pelasgians formed the whole body of the old inhabitants of Greece before the Hellenes. But this was never stated by the Greek authors. The Pelasgians are only mentioned as a people living in Greece, or in some parts of it, amongst the indigenous population, long before the classical time.

There is no sharp distinction made between Pelasgians and Tyrrhenians by the old Greek authors. Probably these two names were generic in the same way as Franks now in the Levant signify all the Europeans, or as Danes, Swedes, and Norwegians here in England during the Viking period were all called "Danes."

History tells us that the Pelasgians at last were driven out from Athens and most of the other Greek places. Those coming from Athens took possession of the isle of Lemnos, where they remained till about 500 B.C.

It is evident that the expulsion of the Pelasgians from Greece was a consequence of the Dorian migration, which is supposed to have taken place in the 12th century B.C., and some time after the Trojan war. Many of the Pelasgians and of the peoples which resulted from the amalgamation of Pelasgian and Greek elements—as for instance the Ionians—returned to the western coast of Asia Minor, where they founded the so-called Ionian colonies. Others took a westerly direction to Sicily and Italy.

This is not surprising, because it was natural that the civilisation coming from the east to Greece had a tendency to go farther to the west, and because we find traces of an intercourse between Greece and Sicily already in the Mycenaean period.

A great number of the Pelasgian emigrants from Greece came, together with kindred people from Asia Minor to the western part of Central Italy, between the Tiber and the Arno, founded there numerous colonies, and took possession of all this rich country. Here also, as had been the case in Greece, they were superior in civilisation, but inferior in number to the old inhabitants. The greater part of the latter remained after the occupation, and gradually mingled with the new-comers.

The new occupants of the country became best known under the name of Tyrrhenians, as the Greek authors, or Etruscans, as the Romans called them. There is no doubt that the Tyrrhenians in Central Italy and in Greece were the same people, and we can thus explain the many affinities in religion, arts and other things between the Greeks and the Etruscans.

The Greek tradition agrees fully with this statement of the case. Hellanikos of Lesbos,¹ in the 5th century B.C., relates that Pelasgians from Thessaly came to Central Italy, took from the Umbrians Kroton and Cære, occupied a great part of Campania, and founded there a new Larissa. Antiklides states that Tyrrhenian Pelasgians from Asia Minor came to Etruria; and we remember what Herodotos² says about the Tyrrhenian emigration from Lydia to Etruria. Tacitus relates that the Lydians still in his days possessed Etruscan documents, in which the Etruscans were said to descend from the Lydians, and have their nearest relations in the Peloponnesos.

Thus the opinion is expressed by all the old authors, that the Etruscans came to Central Italy by sea from the east. The only exception is Dionysios of Halikarnassos,³ who considered them as an indigenous Italian people; but he lived more than 1000 years after the time in question; consequently, his personal opinion has no greater value than that of a modern writer, and he does not cite any tradition or historical fact to support his view.

I know very well that the modern German theory of the origin of the Etruscans does not agree with the Greek tradition. But I am quite sure that the archaeological facts, in Central and North Italy, are now sufficiently well known, and that they prove the truth of this tradition.

These archaeological facts may be summarised as follows:

During the bronze age there is no difference between North and Central Italy. In both parts of the peninsula we can see the same uninterrupted evolution, without any strong foreign influence which would indicate a fresh immigration. For example, in the later part of the bronze age, all the tombs in Central, as in North Italy, are simple *pozzi*, hollowed out in the ground, where the ossuaries with the ashes of the burnt bodies are deposited.

But at the period when iron begins to appear, all this is changed. We then find a sensible diversity between the districts on either side of the Apennines.

In North Italy, where the iron arrives later than in Central Italy, we still find only the immediate continuation of the old evolution with *tombe a pozzo* and the custom of incineration; while the types of the antiquities are evidently descended from their predecessors.

It is true that we find in Central Italy also some similar tombs with burnt bones and antiquities of the same kind as

¹ Quoted by Dionysios of Halikarnassos, I, 28, frag. 25b.

² Herodotos, i, 94.

³ Dion. Hal., i, 28.

NORTHERN ITALY.

B.C.	Periods.	Bronze (or Copper) Implements and Weapons.			Iron Implements and Weapons.	Fibulae.			Pottery.			Graves.		Localities.	Remarks.	
		Axes.	Daggers and Swords.	Knives.		Disc.	No Disc.		Not painted.		Painted.	Unburnt bodies.	Burnt bodies.			
							Not serpeggianti.	Serpeggianti.	Impasto italico.	Bucchero.						
2100	Bronze Age.	I: 1	Flat (copper)	{ Small daggers (copper), No swords. }	—	—	—	—	—	—	—	Fosse.	—	{ Palafittes (terramares), Remedello, Cunnarola. }	—	
1950		I: 2	{ Flanged; low ledges; edge not much broader, not circular. }	{ Triangular daggers (often with bronze handles), No swords. }	—	—	—	—	—	—	—	Fosse.	—	Palafittes, terramares.	—	
1800		II	{ Flanged; higher ledges; edge often broad and circular. }	Swords and daggers.	—	—	—	—	Made, made with the hand (not with the lathe). Engraved, geometrical patterns.	—	—	Fosse.	?	{ Palafittes, terramares, Casena Bianca, Poregliano. }	—	
1650		III: 1	{ Winged; no stop-ridge. }	Do.	Double-edged.	—	—	—		—	—	—	Pozzi.	{ Palafittes (Peschiera), terramares. }	—	
1500		III: 2	{ Winged; slight stop-ridge. }	Do.	Double-edged.	—	{ "Peschiera type," Little disc = fig. 1.* }	{ "Peschiera type." = fig. 19, 20. }	—	—	—	—	Pozzi.	{ Palafittes (Peschiera), terramares. }	—	
1350		IV: 1	{ Winged; high stop-ridge. }	Do.	—	—	{ Larger disc with spirals, = fig. 3-8, 195-200. }	Large, = fig. 24, 25.	{ = fig. 218, 219. }	—	—	—	Pozzi.	Casalecchio.	—	
1200		IV: 2	Palstaves, primitive.	Do.	{ "Round," primitive. }	—	{ Large disc, traces of spirals. }	= fig. 34, 40.	= fig. 221.	{ Villanova - ossuaries, primitive }	—	—	Pozzi (casse).	{ Bismantova, Fontanella. }	No hut-urns.	
1100	Pre-Etruscan Iron Age.	{ Benacci, I. }	Palstaves, thick.	Swords.	Round, broad.	Very rare.	{ No (or few) traces of spirals; one transverse. }	{ Short channel, = fig. 48-57. }	{ = fig. 241, 242. }	{ Villanova - ossuaries. Engraved geometrical ornaments. }	—	{ Geometrical style (very rare). }	—	Pozzi (casse).	{ Bologna (Benacci or Caprara), Este. }	{ No foreign types (or very few). }
950		{ Benacci, II. }	{ Palstaves, thick; not common. }	Rare.	Round, broad.	{ Not very common. }	—	{ Long channel, no button, = fig. 68-70. }	{ = fig. 244, 253. }	{ Villanova - ossuaries. Stamped geometrical ornaments. }	—	do. do.	—	Pozzi (casse).	{ Bologna (Benacci, De Luca), Este. }	{ No foreign types (or very few). }
750		{ Arnaldi (U). }	{ Palstaves, large, thin; rare. }	—	{ Long; rare (none round). }	Common.	—	{ Long channel, sometimes with button, = fig. 105. }	{ = fig. 272, 275. }	{ Villanova - ossuaries (late forms). Stamped ornaments: geometrical, vegetables, animals, etc. }	—	{ Greek vases, extremely rare. }	—	Pozzi (casse).	{ Bologna (Arnaldi), Este. }	{ Few foreign types. }
550		Etruscan.	{ Certosa. }	—	—	—	Do.	—	{ "Certosa type," = fig. 143-147. }	{ Late; = fig. 263 (pl. 102, fig. 1). Very rare. }	{ Some imitations of Greek vases (not painted). }	—	{ Attic: black-figured and red-figured. }	{ Fosse, with cists of wood. }	{ Pozzi, Fosse, with cists of wood. }	{ Bologna (Certosa), Este, Marzabotto. }	{ A great number of foreign types. }
400	—			—	—	—	—	—	—	—	—	—	—	—	—	—

* This and the following fig. refer to my work "La Civilisation primitive en Italie."



CENTRAL ITALY.

B.C.	Periods.	Bronze (or Copper) Implements and Weapons.			Iron Implements and Weapons.	Fibulae.			Pottery.			Graves.		Localities.	Remarks.	
		Axes.	Daggers and Swords.	Knives.		Disc.	No Disc.		Not painted.		Painted.	Unburnt bodies.	Burnt bodies.			
							Not serpeggianti.	Serpeggianti.	Impasto italico.	Bucchero.						
2100	Bronze Age.	I: 1	I: 2	II	III: 1	III: 2	IV: 1	IV: 2	Hut-urns.	Hut-urns. Villanova-ossuaries, primitive.	Pozzi.	{ Piediluco, Goluzzo, Albano. }	—			
1950														— NORTHERN ITALY.		
1800																
1650																
1500																
1350																
1200	Proto-Etruscan.	I	Palstaves, thick.	{ Swords and daggers in bronze sheaths (South Italian type). }	Round, broad.	Rare.	{ No (or few) traces of spirals; one transverse. }	Short channel.	{ = fig. 241, 242. }	{ Villanova - ossuaries. Several new types. }	—	Geometrical style, pure.	{ Fosse (camere). }		Pozzi.	{ Bisenzio, Veji, Narce, Corneto, Vulci, etc. }	{ Many new (foreign) types. }
1100																
1000																
900																
800																
700																
600	Etruscan.	II	{ Palstaves, large, thick. }	Do.	Round, very broad.	{ Common (swords with bronze handles). }	Rare.	{ Long channel, no button at the end. }	{ = fig. 244 -253. }	{ Common. Anforette, with spirals. }	—	{ Geometrical style; with birds. }	{ Fosse, camere. }	Pozzi.	{ Veji, Narce, Corneto (Tomba del Guerriero), Vulci, etc. }	—
500																
	Etruscan.	I	—	—	—	Common.	{ Very rare; no traces of spirals; two transverse. }	{ Long channel, no button at the end. }	{ = fig. 264, 265. }	Rare.	{ Engraved ornaments (not made with a cylinder). }	{ Early prekorinthian skyphoi, old, fine; cotyliscos, only aryballoi, } bands.	{ Fosse, camere. }	{ Pozzi, camere. }	{ Cervetri (T. Regolini-Galassi), Paestina (T. Bernardini), Vetulonia (T. d. Duca), etc. }	{ Inscriptions (not rare). }
	Etruscan.	II	—	—	—	Do.	—	{ Long channel, sometimes with button. }	{ = fig. 266, 269, 270 }	Do.	{ Low relief (made with a cylinder). }	{ Later prekorinthian skyphoi, — aryballoi, etc. (only bands, or with animals). Korinthian, oriental animals (no men). }	{ Fosse, camere. }	{ Tombe a buca, camere. }	{ Veji (Grotta Campana, painted), Narce, Corneto, Vulci, etc. }	Inscriptions.
	Etruscan.	III	—	—	—	Do.	—	{ Long channel, with button. }	—	Do.	High relief.	{ Korinthian: men, inscriptions (Amphiaros). Attic: black-figured style, 1 (François). }	Camere.	{ Tombe a buca, camere. }	{ Narce, Corneto, Vulci, etc. }	Inscriptions.
	Etruscan.	IV	—	—	—	Do.	—	{ "Cortosa-type," fig. 137-148. }	—	Do.	—	{ Attic: black-figured styles, 2 and 3. Do., red-figured styles, 1 (and 2). }	Camere.	{ Tombe a buca, camere. }	{ Narce, Corneto, Vulci, etc. }	Inscriptions.

* Very rare.



north of the Apennines; but we have there a very great number of other tombs with unburnt bodies and a mass of new types, which are not descended from the old types of the Italian bronze age. Some of the new tombs are *fosse*, graves of the same kind as those still in use, and accessible from above; others are *camere*, chambers accessible through an entrance in the side. It is generally supposed that the *fosse* are older than the *camere*, but this is not quite right. It is true that *fosse* belong principally to the first part of the iron age; but it is more than probable that *camere* existed already at the same time as the *fosse*. We remember the round vaulted chambers with a passage leading into them, that belong to the Mycenaean period in Greece. Some graves of the same type have been discovered in Etruria, but unfortunately we know nothing about their contents. The Etruscan tombs of this kind resemble very closely those of the Mycenaean or Tyrrhenian period, in Greece, and as we have no instances of later objects found in the former, it is highly probable that they belong to the very first Tyrrhenian period in Italy.

The fact that the old mode of burial co-existed with the new one can be explained without difficulty. A great number of the old inhabitants had survived the Tyrrhenian occupation and preserved their incineration and their *pozzi*. We find the incineration as a more or less rare exception, throughout all the Etruscan period.

Thus, we understand, that the same types may well be found in some *pozzi*, as in some *fosse*, or in some *camere*. But this is not the rule, and most of the *pozzi* are certainly older than the *camere*. If we consider this, we find also that something quite new must have come into Etruria at the beginning of the iron age; but that meantime the old population long remained in North Italy without any considerable change. In that part of the country no interruption, such as indicates the arrival of the Etruscans, can be traced before the 6th century B.C. Only at that period we have at Bologna new tombs with unburnt bodies and a number of new types.

This agrees fully with the history. Livy says that the Etruscans did not traverse the Apennines and reach to Bologna till long after their establishment in Etruria.

As I hope to show in another paper, the immigration of the new people, the Etruscans, into the country named after them, falls in the 11th century B.C. We know that the first Etruscan *saeculum* was considered as beginning about 1050 B.C., and the beginning of the first Etruscan *saeculum* cannot well have any other meaning than the immigration of the Etruscans in the part of Italy where their chronology was indicated by these *saecula*.

In the name Tyrrhenoi or Tyrsenoi we have the Greek termination -enoi, and the original word Tyrs or Turs. This is the same name as Turša in certain Egyptian inscriptions of the 14th or 13th century B.C. I think there can be no difficulty in discovering what kind of "peoples from the sea" the Egyptians meant by this name. They were the Tyrrhenians in the eastern part of the Mediterranean. We know that this people lived there before its coming to Etruria, and it is evidently much more probable that the Turša came to Egypt from the Ægean Sea than from Etruria. Moreover, the Tyrrhenians did not exist in Etruria at so early a time as the 13th or 14th century B.C. At that period they lived only in Greece and Asia Minor.

The Tyrrhenians, or Pelasgians, survived a very long time in some parts of Greece. Herodotos¹ states that the isles of Lemnos and Imbros had a Pelasgian population so late as about 500 B.C.; at this time Miltiades expelled them from Lemnos. Now some few years ago a most remarkable inscription was found in Lemnos. The language of this inscription from the Pelasgian Lemnos very much resembles the language of the Italian Tyrrhenians (the Etruscans); the inscription was not written by an Etruscan, but by some one belonging to a nearly kindred people. Thus we have here, firstly, a confirmation of the identity of the peoples denoted by the names Pelasgi and Tyrrhenians, and secondly, a proof that an almost identical language was spoken by the Pelasgians or Tyrrhenians in Lemnos, and the Tyrrhenians or Etruscans in Italy.

We may perhaps understand the Etruscan question better, if we consider it in combination with the other phases of the history of pre-classical civilisation. The Mycenaean civilisation is, in my opinion, a very early phase of the oriental civilisation brought over to Europe; the Etruscan is a later phase of the same civilisation penetrating farther to the west.

But, it may be said, if the Etruscan civilisation is the continuation of the Mycenaean, we ought to find in Etruria a number of types similar to the Mycenaean ones, and such finds are very rare there. It is true that we do not find very often exactly the same types, but some close parallels we *do* find. We have some tombs in Etruria of the same shape as the Mycenaean round vaulted grave-chambers, with a passage leading into them, and the reason why we cannot find in Italy many objects of the same kind as the usual Mycenaean ones, is because these belong mostly to a time anterior to the Etruscan immigration of the 11th century B.C.

We have seen that the later part of the third Mycenaean

¹ Hal. v, 26; vi, 136ff.

style was contemporary with the 15th century B.C., and in the following period the Mycenaean style was decadent, and gave place to the so-called Geometrical or Dipylon style. We find also this Geometrical style represented in the Etruscan finds from a very early date. A most remarkable discovery of that kind was made some years ago in a tomb at Vulci; it is now in the Museum of Berlin, and has been figured for me by the kind permission of Professor Furtwängler.

Pre-classical CHRONOLOGY in GREECE and ITALY.

By Prof. OSCAR MONTELIUS.

THIS important question cannot well be treated separately for Greece and Italy, both because these two countries have so much in common—a great number of Greek vases and other articles having been found in Italy—and because the archaeological material necessary for the solution of that question is for the moment better in Italy than in Greece. We know much more about the contents of well examined tombs of the periods in question from different parts of Italy, than from any part of Greece. For it is not enough for the solution of this question to have a number of antiquities discovered in the same necropolis. We must know what has been found in every grave; and, if more than one deceased has been buried there, as in the case of such chambers as the common Etruscan tombs, we ought to know what has been deposited with every one of them. Antiquities not belonging to tombs must for our purpose have been discovered in such a way as to make it clear that those found in the same place were deposited there at the same time.

Most of the materials from Greece cannot be fully used for such an investigation as the present. The objects themselves give some good hints by their form and ornaments; but the history of the finds is not sufficiently well known. The same may be said of many Italian finds, but a sufficient amount of the Italian material is very good for our purpose.

A careful examination of this material has convinced me that we can establish already a chronological system of very short periods, from the introduction of metals to the beginning of the well-known historical or classical times. The most characteristic types from every period are to be seen in the plates; in the adjoined description I have for each period given notices of the most important types of antiquities and tombs, and have indicated some of the places where the most remarkable finds have been made.

For Northern Italy I have distinguished seven periods of the bronze age, and four periods from the beginning of the iron age to the Celtic occupation.

In Central Italy the evolution during the bronze age was exactly the same as north of the Apennines. But from the beginning of the iron age the history of the civilisation in Etruria is quite different. In Northern Italy all the tombs from the first periods of the iron age (*la prima epoca del ferro*) are of the same kind as those from the last periods of the bronze age; the bodies are burnt in the ones as in the others, and the antiquities from the first iron age are of types forming the direct continuation of those from the preceding period. On the contrary we find in Etruria many graves of new types, with unburnt bodies, and most of the objects deposited with them are of foreign types.

A typological study of those periods proves that every one of them comprises a considerable evolution, consequently every period must have had a considerable length. This is confirmed by the existence *in the same place* of many graves from each period. The types characteristic of each period are very often met with in the same find, but types belonging to different periods are seldom found together, and if this is the case the two periods are *immediately successive*. I know only remarkably few exceptions to this rule.

All this proves that every period must be equivalent at least to a century. If it had been shorter, the remains from different periods ought to have been much more confused.

Thus we can give *the relative Chronology* in the succession of several periods.

Can we also give *the absolute Chronology*? Can we fix for each period the date before Christ? I think we can.

Through the lately finished excavations of Akropolis in Athens, we know which classes of pottery are anterior of the Persian war. The layer of rubbish from the destruction of the citadel in 480 B.C. could easily be recognised; in and below this were found numerous fragments of red-figured pottery, not only of the first style, but also of the second, or fine style.

Many Attic vases of that period bear the artist's name. Some of the oldest red-figured vases are signed by the same artists—Nikosthenes, Hischylos, Pamphaios—who made also black-figured vases of the third style. Epiktetos made some vases with red figures on one side and black figures on the other. Other artists—Tychios, Timagoras, Charitaos—have only signed black-figured vases of the third style. Earlier than those are the black-figured vases of the second style. Two makers of such vases, Ergoteles and Tleson, were sons of Nearchos; a third,

Eucheiros, was a son of Ergotimos. Nearchos has signed black-figured vases of the first style or the beginning of the second style. Ergotimos and Klitias are the artists of the François vase, the most celebrated representative of the first style (Plate XXIX, fig. 4).

Consequently every one of these five groups, two red-figured and three black-figured, must correspond to a period of a considerable length, evidently of about, or rather more than thirty years, which gives to the first style of the Attic black-figured pottery the date of the end of the 7th century B.C. The black-figured vases of the first style must be older than those of the second style, and this second style older than the third. A great number of the black-figured vases of the third style are older than those of the first red-figured style, and these are anterior to the vases of the second red-figured style.

The "Attic François vase" is a little later than the "Korinthian Amphiaraios vase" and the contemporary Korinthian vases with human figures and inscriptions. But these vases are later than the great group of Korinthian vases with oriental animals and without human figures. It is evident that the last named "Korinthian vases" represent a very long time, because a great number of Etruscan tombs—*eg.* at Vulci and Corneto—have been discovered, which contain such vases, but no vases of later types.

In some tombs the Korinthian vases are associated with so-called proto-Korinthian or pre-Korinthian aryballoi, bombylioi, etc. But these tombs which are chambers contain more than one body, so that it is difficult to decide whether the pre-Korinthian and Korinthian vases were deposited at the same time.

Many other tombs contain such small pre-Korinthian vases without any Korinthian ones. Some of those small pre-Korinthian vases—which evidently belong to an earlier period than the Korinthian—are ornamented with a zone of running animals, not of the oriental type; on the oldest pre-Korinthian vases, only coloured bands are found.

From a still earlier time date the skyphoi of the old, fine style (Plate XXVI, fig. 1), which are not to be confounded with later vases of a similar form.

Thus we can go very far back, but the skyphoi are not the earliest painted vases coming from Greece, or the eastern Mediterranean. To an earlier period belong the vases of the "geometric style" found in Italy; some of them are decorated with a row of birds, generally looking like ducks; the oldest have no such ornament. The vases of the geometric style discovered in Italy belong to the same class as the "Dipylon vases"; some of them are evidently fabricated in Italy, but

others are Greek, and very fine vases of pure Dipylon style have been found in Etruria as well as in Sicily. In Sicily, near Syracuse, Greek vases of the preceding style, the Mycenaean, have also been met with.

We can now very exactly fix the date of the different groups of Mycenaean vases. Furtwängler and Loeschke have distinguished four such groups; and several discoveries in Greece as in Egypt prove that the later part of the third group—the best known representant of it is the "Bügelkanne," or "false necked vase,"—is contemporaneous with the Egyptian king Amenophis III, who lived in the latter half of the 15th century.

In some Greek tombs, "Bügelkannen" or Mycenaean pottery of the same period have been found together with bronze fibulae of the Peschiera type. Consequently, these fibulae date from the 15th century, a fact of the greatest importance for our question.

The Peschiera fibulae belong to a late part of the III Bronze-period in Central Italy, and the Attic red-figured vases of the second style belong to the IV Etruscan period. Thus we have on the one side a little more than 900 years between the 15th century B.C.—the date of those fibulae—and 500 B.C.—the date of these vases; on the other side we have nine periods from the beginning of the second part of the III Bronze period to the end of the IV Etruscan period.

Every one of these nine periods has been proved to comprise a considerable time, probably of *about* the same length for each period; thus *every period must have lasted about a hundred years, and correspond to the century indicated in the table* (p. 258).

In some cases we can directly control this result.

The Tomba d'Iside at Vulci, which I consider to date from the second part of the 7th century B.C., contained a scarab with the name of the Egyptian king Psammetik I, who reigned 664-612.

A date for the Korinthian vases is given by Dr. Orsi's careful examination of the necropolis of the Sicilian town Megara Hyblaea, which was destroyed 482 B.C., after an existence of 245 years. Thus it had been founded B.C. 727, and the oldest Greek vases deposited in its necropolis must have been made about the middle of the 8th century, or perhaps a little earlier, because the vases placed in a grave generally have been in use for some time before the interment, especially if the grave belongs to one country while the vases have been imported from another. Now the oldest Greek vases discovered at Megara Hyblaea are such pre-Korinthian ones as I have considered to date from the 8th century B.C.

The necropolis of Syracuse has been considered to begin at the same time as that of Megara Hyblaea, because it is

recorded that a Corinthian colony was brought over to Syracuse by Archias in the year 735 B.C. But this does not prove that no Greeks lived at Syracuse before that time. It is never said that the colony of Archias was the *first* Greek settlement at Syracuse, and we know of other places where two Greek colonies came at different epochs. M. Cavallari has also given, some years ago, very interesting reasons for his opinion that there existed a Greek colony at Syracuse before the arrival of Archias; and it has been made quite clear by the careful examinations of M. Orsi that the Greek necropolis of Syracuse begins much earlier than that of Megara Hyblæa. The great difference in the contents of the oldest Greek graves at these two places cannot be explained by the insignificant distance in time between 735 and 727 B.C., the two generally accepted dates of the foundation of Syracuse and Megara Hyblæa.

In Central Italy the proto-Etruscan period begins with the 11th century according to my system. This agrees fully with the date given by the Etruscans themselves of their establishment in Etruria, the first Etruscan *sæculum* beginning at the middle of that century.

I know very well that my chronology differs considerably from that hitherto generally accepted. But I cannot help it. I will only add some few words about a remarkable find where this difference is striking. The Regulini-Galassi tomb at Cervetri is commonly considered to date from the end of the 7th century; it has even been placed in the beginning of the 6th century. According to my opinion, it belongs to the 9th century; thus the difference is about 250 or 300 years. The reasons for my opinions are summarily these: (1) that the Regulini-Galassi grave is according to me—as to all other archaeologists—contemporaneous with the Bernardini grave at Palestrina and the Tomba del Duce at Vetulonia; (2) that these two later tombs contained skyphoi of the old style, but no other Greek vases; (3) that there was found a silver skyphos of the same form in the Regulini-Galassi grave; (4) that consequently these tombs must be older than the small pre-Korinthian and the Corinthian vases. Hence follows: (5) that the Regulini-Galassi grave is *much* older than the François vase, which belongs to the end of the 7th century. On the other hand, the anforette of silver found in the Regulini-Galassi grave is exactly of the same type as the anforette in pottery often found in tombs at Narce and other localities of the first proto-Etruscan period, or the 11th century; and the enormous gold fibula with a large disc and two traverses deposited in the Regulini-Galassi grave is of nearly the same form as the bronze fibulae with disc and one traverse common in the

beginning of the proto-Etruscan time. The palmettes on the Regulini-Galassi gold fibula are of the same shape as the palmettes in the palace of Assurnazirpal in Nimrud, from the first half of the 9th century. This palace seems to have been restored by Sargon in the 8th century; so that it is difficult to say if the Phœnician cups found in that palace date from the 9th or the 8th century B.C.; they resemble very much—but are not identical with—the silver cups discovered in the Regulini-Galassi and the Bernardini graves.

The silver anforette of the Regulini-Galassi grave, like some other vases in the same grave and in the Tomba del Duce at Vetulonia, bear *inscriptions* in Etruscan letters. Similar inscriptions have also been found on other Etruscan vases from the same period. Thus the art of writing was known—and evidently common—in Etruria already before the end of the 9th century B.C. This result is perhaps astonishing, even shocking, but I cannot see any difficulty in accepting it. Moreover, if the art of writing was known in Etruria in the 9th century, it must also have been known in Greece at the same time. The invention of the Grieco-Etruscan alphabet, as an amelioration of the Phœnician one, ought to fall in the 10th century B.C.—if not earlier.

I think that the great difference between my chronological system and the chronology commonly accepted hitherto principally depends upon the following reasons. I have not looked upon one or some few sides of this complicated problem, but I have tried to study every side of it: tombs and other deposits, in Italy and in Greece, pottery and bronzes, personal ornaments, weapons and implements, the evolution of the types and the mode of decoration. I have considered the archæological facts—prehistorical and classical—in Italy, Greece, and the Orient, as well as the hints given by the history. And for the absolute chronology, I am not only going back from the first period which is well known from Greek history. I have also an independent point of departure high up in the pre-classical period, in the 15th century B.C. This makes it possible for me to date all the periods filling up the whole space between that time and the Persian war.

Evidently what I have had the honour to say to-day cannot be the last word in this important and complicated question, but I have thought it to be the best, if some one would risk his neck in constructing a complete chronological system, that can be carefully examined and corrected where it proves not to be all right. Therefore, I now have dared to do so.

Mr. ARTHUR EVANS said the Institute, in company with the Anthropological Section at Liverpool, might congratulate themselves as having been the first recipient of some of the most important generalisations arrived at by Dr. Montelius in his comprehensive study of primitive Italian civilisation. His subdivision of the Italian Bronze and Early Iron ages into a number of distinct chronological periods showed the further application of the principles already so successfully worked out by him in his monograph on the Bronze Age chronology of Scandinavia. Among the general results obtained, none was of greater importance than the demonstration that while north of the Apennines the evolution of forms was continuous down to the close of the Bronze Age, south of this chain there was evidence during the later part of that period of a considerable break in continuity accompanied by the wholesale intrusion of exotic forms. Mr. Evans agreed with Dr. Montelius that many of these new elements might be described as late Mycenaean, and noted that this ingredient was specially observable in the south of the peninsula.

So far as Etruria was concerned, the archaeological facts agreed very well with the date assigned by native tradition to the first arrival of the Etruscans or Tyrrhenians in the 11th century B.C. As to the Asiatic origin of the Mycenaean civilisation, however, Mr. Evans was not able to follow the author of the present communications. That there were large Oriental factors as well as Egyptian in Mycenaean civilisation was evident, but it was equally clear that many of its root elements had grown up on Aegean soil. The bee-hive tombs of Asia Minor, so far as they had been described, were later than those of Mycenæ. Like many other comparatively late phenomena there and in Cyprus, they represented a tide of influence from the Aegean side—the Lions of Arslan Kaya, for instance, being a remote echo of those of the Lions' Gate. As far as he knew the earliest bee-hive tombs approaching the Mycenaean type were the rock-cut tombs of the later stone, or Æneolithic, period in Sicily. The relationship in this case pointed rather to a western than an eastern connexion. Inasmuch, however, as Mycenaean culture undoubtedly influenced the Anatolian coastlands towards the close of the Mycenaean period, the question of the ultimate source of that culture did not affect the possibility of Tyrrhenian emigrants from that quarter having in the 11th century B.C. imported certain late Mycenaean elements into Italy.

That the Tyrrhenes were the Turshas of the Egyptian monuments, and as such closely connected with various peoples of primitive Greece, the Aegean islands, and the western coastlands

of Asia Minor, seemed a most probable conclusion. As to their exact relation to the Pelasgians, however, the evidence seemed to lack precision. Neither did there seem any sufficient reason for confining to this Tyrrhenian element the late Mycenaean influence on primitive Italy. Mr. Evans himself believed that he had found conclusive evidence that the early Roman traditions of an Arcadian settlement covered a historic fact, and were accompanied by unmistakeable traces of religious beliefs common to Mycenaean Greece.

One part of Dr. Montelius' conclusions was nothing less than revolutionary. This was his deliberate expression of opinion that the Regulini-Galassi tomb at Cervetri, and other typical deposits of the same character, such as the Bernardini tomb at Palestrina, the Tomba del Guerriero at Corneto-Tarquiniæ, and the Tomba del Duce at Vetulonia must be referred, not as hitherto generally believed, to the end of the 7th or even to the 6th, but to the 9th century B.C. This view, if accepted, must wholly change the received chronology of the Early Iron Age remains of Italy; but startling as it was, coming from such a high authority, who adduced in its support a whole series of parallel data, it deserved the closest attention. Mr. Evans confessed that personally he had long viewed the comparatively late date assigned to this most important group of interments with the greatest suspicion. It had indeed seemed to him quite irreconcilable with certain phenomena presented by them, such as the occurrence of small silver amphoræ identical with vases found in well tombs or *pozzi* of early type, such as those of Albano.

A grave difficulty was indeed suggested by the occurrence in these tombs of inscribed objects with Etruscan as well as Phœnician characters. Dr. Helbig—from the fact that exact reckonings of the Etruscan *secula* (the length of which was, determined by the longest life in each) only begin with the 5th century in 644 B.C.—had deduced the conclusion that the introduction of writing must have taken place at some date between the beginning and end of the century preceding this. Moreover, the Chalkidian origin of the Etruscan alphabet was generally recognised, and Cumæ—the earliest Chalkidian colony in Italy—was, according to the received date, founded in 730. From these grounds Helbig had deduced the conclusion that the knowledge of letters could only have reached the Etruscans about the middle of the 7th century.

In answer to this Dr. Montelius brought forward the alternative statement that Cumæ was founded in 1049, but, even if such an early date for a Chalkidian colony could be substantiated, it would be none the less a remarkable phenomenon

to find a whole series of Etruscan inscriptions earlier by at least two centuries than the earliest records of Chalkidian writing in Italy.

It must indeed be remembered that the Etruscan alphabet contained some very archaic forms, and that a comparative study of the Greek and Phœnician alphabets showed that certain Greek letters must have been taken over at an earlier date than that of the Moabite Stone, which belonged to the beginning of the 9th century B.C. But, admitting all this, was it probable that these Etruscan inscription—themselves derived from the Greek and only at second-hand from the Phœnician—could go back, as was required by Dr. Montelius' system, approximately to the date of the earliest known Phœnician inscription? In this group of Etruscan deposits with which he was dealing, Phœnician inscribed objects also occurred, but the letter-forms on these were of a later type than that of the Moabite Stone, and had indeed been compared by Semitic epigraphists to those of the Assyrian tablets of the 7th century B.C. In Mr. Evans' opinion the Etruscan letters were the outcome of a growing commercial contact with Greece which culminated in the actual colonization of South Italy, and in this case the first appearance of Etruscan inscribed objects might be more or less contemporaneous with the first period of Greek settlement in the last half of the 8th century.

He could not agree with Dr. Montelius that a comparative study of the relics from the early cemeteries of Syracuse and Megara Hyblæa necessarily involved the conclusion that the Greek settlement at Syracuse took place much earlier than at Megara. The weight of historic evidence was decidedly against this, and it might very well be that the earliest colonial tombs of Megara Hyblæa still remained to be discovered. But the pre-Hellenic tombs of that part of Sicily bore witness none the less to a continuous commercial intercourse between the Sikels and the early inhabitants of Greece from Mycenaean times onwards. These pre-colonial influences might, as already suggested, explain some of the Etruscan phenomena.

In conclusion, Mr. Evans said that though in his opinion Dr. Montelius was right in protesting against the unduly late date assigned to this interesting group of Etruscan and early Latin tombs, he personally felt himself unable to move up their chronology beyond the latter half of the 8th century B.C. There were indeed in these deposits certain metal work reliefs, as for instance a silver sheath from the Bernardini tomb at Palestrina, which must, he thought, be regarded as imported articles from Greece, and which answered to the style of the figured representations on some gold bands and diadems found in the

late Dipylon tombs at Athens, and containing vases of the style which immediately preceded the "Early Attic." The associations in which these objects were found at Athens tended to show that they belonged to the 8th century B.C., and they seemed to him to be of capital importance in dating the group of Italian deposits then under discussion.

Mr. J. L. MYRES said that the account given by Dr. Montelius of the Tyrrhenians in Italy, as having entered Etruria from the sea, at or about the date indicated by the Etruscan era, quoted by him, would seem to give an intelligible explanation of many points in the history and civilisation of that people, more especially as their movement westwards may thus be closely connected with the series of movements of maritime peoples in Ægean and Libyan waters, of which the Egyptian record gives us more than one glimpse, and which Greek tradition vaguely remembered under the name of the Sea-Empire of Minos.

But Dr. Montelius did not bring clear evidence in support of his theory that, not the Etruscan civilisation only, but also the Mycenaean (to which he rightly affiliates it) can be traced back to a common origin in Asia Minor.

The hypothesis of Drs. Koehler and Dümmler, that the Mycenaean peoples in Greece and the islands of the Ægean emanated from Karia, was published about ten years ago, at a time when only literary and traditional evidence was available, and Karia itself was practically unexplored.

Unlike Milchnoefers equally hypothetical suggestion of a *Cretan* origin, the "Karian theory" has not been borne out by subsequent research on the Karian coast. We are now in a position to state that whereas Mycenaean settlements exist in almost all the islands which fringe that coast, they have been looked for in vain on the mainland, and it is now practically certain that Karia, so far from contributing anything to the Mycenaean civilisation in its rise, or at its culmination, did not even begin to feel the influence of that most contagious culture, until the period when geometrical ornament had succeeded naturalistic, and the fibulae were already well bowed, like the earliest types from Olympia, and from sub-Mycenaean sites in Cyprus. Similarly in Lydia, the evidence is at present all in favour of late Mycenaean importations into a comparatively barbarous area, and against any theory of an emigration of culture from the mainland into the Ægean.

The only period at which adventure and emigration from Karia and the neighbouring coast can be traced is in the period which definitely succeeds the Mycenaean age; it is asserted both by Greek tradition, and by such finds as the Karian

graffiti at Abu-Simbel in Egypt; and can thus be dated between the 10th and the 7th centuries B.C.

With regard to the Tyrrhenians themselves, it is not improbable, as Dr. Brinton has argued on philological grounds, that their nearest connections are among the Berber races of North Africa. They are represented throughout in Greek historical tradition as the associates, in commerce and piracy, of Carthage in the 6th and 5th centuries B.C., and some of the types of pottery from recent excavations at Carthage would seem to carry a similarity of culture up to the 8th or early 7th century.

Dr. Sergi's theory of a Lydo-Tyrrhenian emigration of "belated Pelasgians" (*Pelasgi tardivi*), as indicated on the sketch map in his last paper,¹ resembles that of Dr. Montelius, but as Dr. Sergi has not clearly indicated the date at which he supposes the migration to have taken place, it would be premature to examine it by historical, or archaeological criteria; but, for the reasons already stated, it can hardly be dated later than the *pre-Mycenæan* age.

Professor RIDGWAY expressed his satisfaction at finding that the view of which he had given a brief summary in the "Academy" in July, 1895, and which he had published at length in the "Journal of Hellenic Studies" (April, 1896), had the support of two of the most distinguished living archaeologists, Professor Montelius and Mr. A. J. Evans. He proceeded to show that whilst the Mycenæan age was that of bronze, the Achæans of the Homeric poems were in the iron age. He pointed out that the Achæan civilisation coincided with that of the Halstadt period. The graves at Glasinatz in Bosnia disclose a people who used iron for their cutting implements (swords, knives, spears), as did the Achæans; they had bronze helmets and greaves, thus corresponding to the "brazen-greaved Achæans"; they had shields with bosses such as those mentioned in Homer; they had no engraved stones, but only had amber and blue glass for ornaments, again agreeing completely with the Achæans. He hoped to show in a forthcoming volume that the Achæans had passed into Thessaly from Epirus, the very region where such remains as those at Glasinatz were now being found.

¹ "Origine e Diffusione della Stirpe Mediterranea Roma," 1895.

The BūRBŪNG of the WIRADTHURI TRIBES. (Part II.)

By R. H. MATHEWS, I.S.

IN a former communication¹ to the Anthropological Institute, I described the Būrbūng of the tribes belonging to the Wiradthuri community occupying that part of New South Wales watered by the lower portions of the Macquarie, Castlereagh, and Bogan rivers, with their affluents and branches. As I had to abridge that article in order to keep it within reasonable limits, I stated that on a future occasion I would prepare a supplementary paper describing the most important parts of the ceremonies in a more extended form.² In fulfilment of that promise, the present article has been prepared, in which I shall deal with the Wiradthuri tribes spread over the upper portions of the rivers above mentioned, extending southerly to the dividing range between the Lachlan and Murrumbidgee rivers, including within that area the tribes resident on the upper part of the former river and its numerous tributaries.

In my original communication, the manner of summoning the several tribes to attend the Burbung,³ and their arrival at the main camp⁴ was explained, the Burbung ground with its imagery and surroundings was carefully described,⁵ the preliminary daily performances at the ring were particularly detailed.⁶ It will be unnecessary, therefore, to include any further information respecting these parts of the ceremonies in the present paper. In the following pages I shall endeavour to more fully describe the manner of removing the novices from the main camp, and to supply comprehensive details of the important secret ceremonies in the bush, these divisions of the subject having been rather briefly defined in my former memoir.

Taking away the boys.—During the night preceding the taking away of the novices,⁷ considerable sexual license is allowed between the men and women, whether married or single. This liberty is accorded only to those parties who would be permitted to marry each other in conformity with the tribal laws, but would not be extended to the novices. The next morning all

¹ "The Būrbūng of the Wiradthuri Tribes," "Journ. Anthropol. Inst.," xiv, 295-318.

² "Journ. Anthropol. Inst.," xiv, 297.

³ *Loc. cit.*, 303-305.

⁴ "Journ. Anthropol. Inst.," xiv, 305-307.

⁵ *Ibid.*, 299-303.

⁶ *Ibid.*, 307.

⁷ As stated in my former paper, the time for taking the novices away from the camp is fixed by the headmen, after the arrival of all the tribes who are expected to be present at the ceremony. "Journ. Anthropol. Inst.," xiv, 307.

the men commence shouting before daylight, and as soon as it is clear enough, every one in the entire camp shift up close to the ring.¹ Some men cut bushes and bring them alongside for use in covering the women presently, and rugs and blankets are also gathered out of the camp for the same purpose. Every novice had a guardian² assigned him by the headmen, such guardian being selected from among the initiated men of the class and totem with which the novice was entitled to intermarry. These guardians did not act openly, because the women were present, and they did not wish the latter to know that they were taking a prominent part in the proceedings, but got some of their brothers, who may be called their assistants, to act for them until the women were covered up. Each assistant took his novice in charge and invested him with all the articles comprising the dress of a man of the tribe. This dress consisted of a girdle round the waist, under which were inserted four kilts or tails (*burrān*), one of these tails hanging down in front, one behind, and one on each side. A net band was fastened round the forehead, and a somewhat similar band around each of the upper arms. Coloured feathers of the cockatoo and other birds were inserted in the boys' hair.³

The sisters of the novice and those of the guardian now painted him red all over his body and limbs, after which a brother of the guardian led him into the ring and placed him sitting down on some bark close to the embankment forming its boundary. The novices belonging to each tribe were kept in a group by themselves, all having their heads bowed down, on the side of the ring nearest to their own *ngooranbang* or country.⁴ The mothers of the novices are now brought up and are placed sitting down in a row just outside the embankment bounding the ring,⁵ each mother being immediately behind her son. She sits in such a position that she can hold in her hand the tail which is attached to the left side of her son's girdle.

To make the position of the boys and their mothers more clearly understood, we will suppose that the tribe from Cowra, on the Lachlan river, are present. All the Cowra novices would be placed sitting in a row within the embankment, on the side of the ring nearest Cowra. The mothers of the novices would be just outside the ring; their female relatives would be just behind the mothers, and all the other Cowra women and

¹ See Plates XXV and XXVI, of my first paper, and the descriptions of them. "Journ. Anthropol. Inst.," xiv, 299-303 and 314-315.

² "Journ. Anthropol. Inst.," xiv, 308.

³ *Loc. cit.*, 308.

⁴ *Loc. cit.*, 308.

⁵ The boundary of the circle is generally formed by a raised earthen embankment. *Loc. cit.*, 299, note 1.

children would be farther back. The novices belonging to each of the other tribes present, and their female relations, would be similarly placed in groups by themselves at different places around the circle.

All the women and children are now directed to lie down, with their faces turned away from the ring, and a number of the men proceed to cover them over with the rugs and bushes which they have in readiness. These men, with spears in their hands, then watch the women to see that the covering is not interfered with.¹ Little children, who cannot speak, are not covered up, but are allowed to remain standing or sitting among the women, because they are not able to report anything which they may see.

When all these preliminaries had been satisfactorily arranged, the headmen gave the signal, and two men commenced vigorously sounding bull-roarers close at hand, in the direction of the goombo; and several men came along the track from the same direction, each man carrying in one hand a piece of bark, called *munga*, previously described.² These men entered the ring through the opening³ in the bank, and ran round, hitting the ground heavily with the pieces of bark referred to, but not uttering any exclamation, and then withdrew. The other men standing about the ring shouted, and during the combined noise of the bull-roarers, the shouting, and the beating of the ground, each guardian came forward, and caught his novice by the arm⁴ and led him with downcast eyes out of the circle and along the track. The headmen, and most of the young fellows officiating in the ceremonies at the ring, also went with them.

During the din and clamour produced at the ring while the novices are being taken away, some of the men pick up a few articles belonging to the women, such as dilly-bags, yamsticks, or the like, and scatter them about.⁵ Fire-sticks are also thrown close to where the women are lying, to impress them with the prejudice which Dhurramoolun is said to have against womankind. Some of the men who are standing around take up some of the little children, who are not old enough to talk—and cannot therefore report anything to their mothers—and mark their bodies with a few spots or stripes of paint, the women being led to believe that the evil spirit did this when he was taking the novices out of the ring.

When the guardians and novices are out of sight, the men take the covering off the women and children, who then get up

¹ "Journ. Anthropol. Inst.," **xv**, 308.

² *Loc. cit.*, 308, Plate XXVI, Fig. 40.

³ *Ibid.*, 299.

⁴ "Journ. Anthropol. Inst.," **xv**, 308.

⁵ *Loc. cit.*, 308.

and look around.¹ They all feel more or less awe-struck, particularly the young women and children who have never been to a Barbung previously. The scene before them—the deserted ring, the burning sticks, and their own effects scattered about, has a very depressing effect upon their feelings, which usually finds vent in cries and lamentations, especially among the mothers and sisters of the novices.

As the novices rise to their feet at the time they were taken away from the circle, the tails (*burran*) which were held in their mothers' hands, as before stated, separated from their girdles. These tails were taken possession of by the mothers, and will be returned to their sons later on.

When the excitement has subsided, all the women and children belonging to the different tribes present in the main encampment, pack up their effects, and with the help of a few of the men of each tribe who have been left with them, they start away and form another camp at some place which has been determined by the headmen, where they take up their respective quarters in accordance with their usual custom of each tribe occupying the side nearest their own country.² This new camping ground may be only a short distance off, or it may be several miles, according to the requirements and conveniences of all the tribes present at the ceremonies.

Ceremonies in the Bush.—As before stated, the guardians have taken the novices out of sight along the track leading to the sacred ground. They march on past the image of Dhurramoolun, the marked trees, and the goombo, the novices not being allowed to see anything, but are obliged to keep their eyes cast upon the ground at their feet. When they get a little way beyond the goombo,³ the novices are placed lying down on their sides on the ground, and a rug thrown over each of them, where they are kept for a short time, perhaps a quarter, or half an hour. This stoppage is made for the purpose of allowing the *kooringal*⁴ and other men who intend going into the bush with the boys, to collect their weapons and other things, and get ready generally. Every man of the *kooringal* paints himself with powdered charcoal, or burnt grass, mixed with grease, which gives their bodies a shiny black appearance.

When the men overtake the boys at this halting place, a number of the *kooringal* go a few paces away, and sitting down,

¹ "Journ. Anthropol. Inst.," xiv, 303.

² *Loc. cit.*, 308, 309.

³ "Journ. Anthropol. Inst.," xiv, 309, Plate XXV, No. 13.

⁴ The *kooringal* are a band of warriors and athletes who accompany the guardians into the bush, and assist the chief men to carry out all the formalities of initiation. "Journ. Anthropol. Inst.," xiv, 323.

commence hitting the ground with the palms of their open hands. They have small twigs and long grass fastened in their hair, to give them a ludicrous appearance. The novices are then helped to their feet, and the rug adjusted on the head of each in such a way that a small opening is left at the face to allow of the boy seeing the ground at his feet as he walks along with his head bent down; he could also see anything he was directed to look at. The guardians explain to the novices that they will not be permitted to speak, or to laugh at anything that may be shown them in the bush; that they must pay great attention to everything that is said or done, and not be afraid. Their faces are now turned towards the men who are beating the ground, and they are directed to raise their heads and look at them for a few minutes.

The guardians now bend down the heads of the novices, and conduct them into the bush to a place which had previously been agreed upon by the headmen.¹ Such a camp would be in the proximity of a creek or waterhole, and where there was plenty of wood for fuel. On arriving at the appointed place, a camp is selected for the novices, and they are placed lying on the ground, the rugs remaining on their heads. The men camp close to them, and prepare a corroboree ground by removing all loose rubbish from the surface of a level spot near the camp.

That night, shortly after dark, the *kooringal* muster on the cleared space referred to, on the other side of the fire at the men's camp, and play the wood-duck. The boys are brought out of their own camp, and are placed sitting in a row on the other side of the fire. The *kooringal* walk past the fire flapping their hands on their hips, and imitating the quacking of the wood-duck. When they have all passed into the darkness, they return past the fire in the same manner into the darkness on the other side. This is repeated for some time, when the novices are again taken back to their own quarters by their guardians, who camped with them, and everyone retired to rest for the night.

An hour or two before daylight next morning, all hands are roused by the headmen. All the people are now divided into little mobs or groups, each of which proceed in different directions, going about a hundred yards from the camp where they had been all night,—which, for convenience of reference, may be called "No. 1 camp." The distance which each group goes from the camp need not be equal, but is regulated by the suitability of the ground. The novices, each having his guardian with him, are taken away in these mobs,—some going

¹ "Journ. Anthropol. Inst.," **xxv**, 309.

with one group, and some with another.¹ Some of the groups would perhaps have no novices with them. Each of these groups light a fire at the place where they halt, and remain there till about daylight or sunrise, and have breakfast there.

All these little mobs then re-unite, and clear another corroboree ground a little way from the one they prepared the previous evening at "No. 1." On this new corroboree ground the *kooringal* play the porcupine, imitating that animal before the boys, who are ranged on one side, and are directed to look at the performance. The guardians then take the novices back to the little camps they had severally come from, and remain there with them. During the day the painting on the bodies of the novices is carefully renewed. As the novices are not permitted to speak, if they require anything they must make signs to their guardians. If a boy wants to attend to any necessity of nature he is taken about ten paces away from the camp, where the guardian digs a hole for the purpose, which he again fills up with earth after it has been used.

The *kooringal* and other men who may be accompanying them then go out hunting to obtain food for the novices and their guardians. On returning late in the afternoon with the game caught during the day, some of it is cooked by the *kooringal* for the novices. The bones and sinews are taken out of the meat which is prepared for them, and is taken to them by their guardians. Some of the old men go round to see that the novices' food is dressed and cooked according to rule. When the groups of men and boys have partaken of the evening repast, they are all mustered together again, and go to "No. 1 camp," that is to say, the same place where they camped the previous night, the novices and their guardians going into their own quarters as before.

Some time after dark, the novices are brought out to one side of the camp fire, and several of the *kooringal* men climb up a tree growing close by, some going into one branch and come into another. They then imitate the noise made by opossums, and micturate down out of the tree, representing a habit of that animal when it first goes out of its hole on to a branch of a tree. The men then come down out of the branches and run along on their hands and feet past the camp fire, which finishes the performance.² The boys are taken back to their camp, and everyone—men and boys—go to sleep.

¹ Each of these little camps is called a *baubul*. Every novice is taken away from "No. 1 camp" to a *baubul* situated in the direction opposite or contrary to that of his own country.

² Although I have mentioned only one play in the morning and one in the evening, there may be two or more different performances in succession each time. This applies to every day's proceedings.

Next morning, before daylight, all hands are roused up, and radiate away from the camp in little groups as on previous occasions, but going to new places. After breakfast, another patch of ground is cleared and the *kooringal* play *Dhoondhoe*, or black swans. They have grass and bushes tied in their hair, and walk past abreast, imitating the waddling gait of swans, the boys looking at them as usual. The *kooringal* then go out hunting, and the novices, with their respective guardians, go back to the small camps they were taken to in the early morning. On the return of the hunters in the afternoon, food is prepared and given to the novices in the usual manner, after which the whole assembly go into their old quarters at "No. 1."

A little while before sundown the bull-roarer was sounded somewhere close at hand, and the old men gave each novice some human excrement which they were compelled to eat.¹ During the evening some urine was collected in a coolamin, and given to the novices to drink when they were thirsty. It may be mentioned here that all the plays and other performances of the *kooringal* while out in the bush with the boys contain many obscene gestures and filthy practices; and it is remarkable that we find exhibitions of a somewhat similar character among the customs of other savage races² in different parts of the world.

The following morning, an hour or two before daylight, the old men call up the entire camp, which is again divided into little groups who radiate round the main camp as on the previous morning. On this occasion, however, these groups do not go to the same spots as before, but each little mob selects a fresh place at which to light their fire, and remain till daylight. After breakfast another new corroboree ground is prepared and the boys brought into it. The *kooringal* play *gummar*, or a windstorm; they go along one after the other, shouting and breaking down saplings and pulling up smaller bushes by the roots. After this the guardians and boys divide into groups and go back to their little camping places, and the *kooringal* and other men again go out hunting, and return to the camp early in the afternoon.

The remainder of the day should be devoted to the extraction of one of the central upper incisor teeth³ of each novice, but this custom has of recent years fallen into disuse owing to the occupation of the country by the white people. Two of the old headmen, however, gave me the following account of the process,

¹ "Journ. Anthropol. Inst.," xxv, 312; *ibid.*, vii, 252; "Journ. Roy. Soc. N.S. Wales, xxviii, 103-104; "Kamilaroi and other Australian Languages," 154-156.

² For particulars of the use of human ordure and urine on festive and ceremonial occasions, the reader is referred to Capt. J. G. Bourke's valuable book on the "Scatologic Rites of All Nations" (Washington, 1891).

³ "Journ. Anthropol. Inst.," xxv, 312.

illustrating their verbal descriptions by making holes of the required size in the ground, and placing themselves in proper attitudes. There was a small cleared space close to the camp, in which were made a row of double holes, varying from 6 inches to a foot deep, the number of the pair of holes equalling the number of the novices. In these the feet of the novices were put to prevent struggling, but the loose earth was not filled in around the foot. Each novice sat on the knee of one of the men, while another stood behind with one hand over the eyes of the novice—the other hand holding his chin to keep the mouth open. The principal headmen stood by, giving the necessary directions. When all was ready, the man who was to knock out the tooth stepped forward, bearing in his hands a mallet and a small wooden wedge, which was driven between the teeth for the purpose of loosening them, after which the tooth was knocked out by placing the wooden chisel against it, and then giving it a smart tap with the mallet. The tooth was either pulled out of mouth with the fingers, or was spat out, but the blood was swallowed. The foot holes were then filled up, and the novices were taken back to the camp.

That night at "No. 1 camp," instead of imitating an animal, the performance consists of the *kooringal* pretending to quarrel about something.¹ Loud recriminations are indulged in, and the men shake their weapons, as if going to engage in immediate combat. This is done to intimidate the novices, who are lying down, covered over as usual. After peace has apparently been restored, a number of the *kooringal* stand round each novice in succession.

On the following morning, as usual, about an hour or two before daylight, the old men awaken the entire camp, which is again broken up into small segments, each segment going away in different directions, and forming new camps, as before. As soon as the morning meal has been disposed of at these scattered camps, all the novices are mustered, and put standing in a row on the side of a freshly cleared space, near No. 1 camp. They have the rugs over their heads, and their eyes cast down in the usual way. About twenty men of the *kooringal*, painted black with charcoal and grease, and having small green bushes, and bunches of grass fastened in their hair, are sitting in a row in the cleared space, opposite to the novices. Each man has a piece of bark, *munga*, in one hand, similar in size and shape to the bark used in beating the ground at the ring, the morning the novices were taken away.² At a given signal from the headmen, who are standing close by, the *kooringal* commence

¹ "Journ. Anthropol. Inst.," xiv, 310.

² *Loc. cit.*, 311.

hitting the ground in front of them with the *munga*. At the same time bull-roarers (*mudjeegang*),¹ were sounded by two men who were standing in the clear space behind the *kooringal*. The guardians then raise the novices' heads, and opening the rugs at their faces, tell them to look at the scene before them. A number of men now step out behind the *kooringal*, who are sitting down beating the ground. Each of these men has a boomerang in one hand and a bunch of grass in the other, and after swaying their bodies to and fro for a short time, they all simultaneously throw their boomerangs over the heads of the novices. As soon as this is done, the guardians lift the blankets off the novices' heads,² and they are thus freed from being covered any more in this way. Several of the *kooringal* now rush up in front of each novice, with spears and other weapons raised in their hands, and threaten them that if they ever reveal what they have now been shown, to the women or the uninitiated, they will be killed without mercy. Several tails (*burrân*) are now fastened by the guardians to the hair of the head of each novice, some hanging down behind, and others at the sides. The chisel and mallet with which the tooth was knocked out are shown at this time.

When these formalities are over, the novices and their guardians go out hunting with the *kooringal*, the boys being permitted to join in the exploits of the chase, the only restriction being that they must not look behind them, or on either side. On getting in sight of "No. 1 camp" when returning late in the afternoon, each guardian breaks a large bush which he hands to his novice, who holds it with folded arms against the front of his body, and marches on with his head bowed towards his breast. When the novices get into camp, each boy puts his bush on the ground, and sits down upon it. The game caught during the day is cooked, and that which is intended for the novices is dressed in the usual manner, by removing all bone and sinew from it. There is no performance at the camp fire that night, and all betake themselves to slumber as early as they can.

*Return of the boys.*³—An hour or two before daylight next morning, the assemblage is once more scattered into little groups as on previous occasions, and three of the *kooringal*

¹ "Journ. Anthropol. Inst.," xxv, 308.

² *Loc. cit.*, 311.

³ In my original paper on the Bûrbûng, "Journ. Anthropol. Inst.," xxv, 296, I stated that in consequence of the numerous particulars to be taken down, some omissions or errors of detail might have crept in. I now find that a few of the ceremonies in the bush were not given in their proper sequence. The novices were shown the bull-roarer, and were named, during their first term in the bush before their return to the *thurrawonga*.

start away towards the place to which the women had removed the camp from the Burbung. The remainder of the men now pack up everything belonging to them, and after breakfast all the little groups again re-unite as usual. A start is then made towards the women's camp, hunting as they go, to provide food. Early in the afternoon they arrive at a waterhole, where a halt is made, and all the men go into the water and wash the black paint off their bodies, the novices sitting on the bank as spectators, towards whom the men splash water with their hands, and then come out of the waterhole. At this halting place, the men and boys have all the hair singed off their bodies, and the ends of the hair of their heads is singed to make it shorter.

Preparations are now made for resuming their journey towards the *thurrawonga* camp. The novices are decorated with spots of pipe-clay on top of the red ochre with which the whole of their bodies have been kept painted every day while they have been in the bush. The spots or daubs of pipe-clay referred to are put on the faces, breasts, and arms of the novices. The men are also painted, and both they and the boys wear their full dress.

Having proceeded some distance, another stoppage is made, and some of the old men who are related to the novices present call each boy out and give him a new name, by which he shall be henceforth known among the initiated men of the tribe.¹ The novice stands with his guardian, and when the name is announced the men raise a shout. The *kooringal* then again caution the neophytes not to reveal what they have seen to the women or the uninitiated, or they will be punished with death. While they are repeating this caution they hold in their hands spears and tomahawks, and step up quite close to the novices in a threatening attitude.

The three men before mentioned who started away before daylight went back to the new camp erected by the women. On arriving there, and having some conversation with the old men who had remained with the women, they put up a yard called *thurrawanga*,¹ for the purpose of receiving the novices on their return that evening. This yard resembles a semicircle in shape, and is built of forks and bushes laid as a fence, the convex end facing in the direction from which the novices are expected to arrive. It is about 40 feet across the open end and about 30 feet in the other direction, the height of the bough wall being about 4 or 5 feet. Near the farther end of this partial enclosure some sheets of bark are laid on top of logs and bushes, forming a platform of sufficient length to provide sitting room for the number of boys who are to be operated upon.

¹ "Journ. Anthropol. Inst.," xiv, 310.

When the *thurrawanga* is completed, one of the three men before mentioned starts away to inform the *kooringal* that all is ready. He meets them somewhere on their march a little while before dark, and remains with them. They so regulate their progress that they may reach the appointed place an hour or two after dark. When they get within hearing distance, they commence to whistle and clap their hands together as they walk along through the darkness, and the women whistle in reply and give an occasional shout.

About dark the mothers of the novices, having their bodies painted and wearing ornaments in their hair, repaired from the general camp to the *thurrawanga*, accompanied by the two old men who had erected it; the other men who had been in the women's camp during the absence of the boys are also present. These people light a fire in the open end of the *thurrawanga*, and the mothers of the boys stand in a row a few paces outside, facing the fire. Each woman has beside her a spear sticking in the ground, on the upper end of which a tail, or *burran*, is fastened; the spear is ornamented with stripes of white and red paint, and the *burran* is coloured with red clay. She is also provided with a small quantity of pipe-clay and a boomerang painted with red and white stripes.²

When the procession from the bush get close to the *thurrawanga*, a bull-roarer is sounded in the rear, and the novices are taken on the men's shoulders and carried into the enclosure, where they are placed sitting down on the platform. The mother of each novice now steps forward and squirts pipe-clay out of her mouth over his face,³ and at the same time taps him lightly on the breast with a boomerang which she holds in one hand. She then hands a spear, with a tail (*burran*) fastened to one end of it, to the guardian, who gives it to the novice. This is the *burran* which was left in the hand of the mother the morning her son was taken from her at the ring. The mothers then go away and proceed to their own camp.

Generally speaking, the novices and their guardians stop in the *thurrawanga* during the remainder of the night;⁴ but if it has been found necessary to erect it too close to the women's camp, the guardians and boys remove to some suitable place a little farther off. Most of the single men camp with them, but the married men go away to the women's camp.

¹ "Journ. Anthropol. Inst.," xxv, 309.

² Sometimes, instead of the boomerang, the mothers have a piece of bark, *barraag barraag*, about the same size, slightly scorched in the fire, so that it will show the marks of pipeclay, with which it is ornamented.

³ "Journ. Anthropol. Inst.," xxv, 310.

⁴ *Loc. cit.*, 310.

Next day the boys are taken by their guardians and such of the *kooringal* as have remained with them, a few miles into the bush,¹ no women being allowed near them, where they gain their own living by hunting such animals as have not been prohibited as food. On the afternoon of the third or fourth day, the novices are painted red all over, with spots of white, as on the occasion of their return to the *thurrawanga*, and a start is again made towards the women's camp, which was removed to another place on the morning following the return of the boys. There another semicircular platform has been erected by the men, in close proximity to the camp. It is constructed in a similar way and is about the same size as the enclosure previously described, but on this occasion its open end faces the direction from which the novices are to approach. Around the back wall of the interior of this enclosure, a platform was erected by placing pieces of bark on top of logs and bushes like the other platform, except that this one is higher. On this platform were laid dilly bags belonging to the mothers of the novices who were to come in, one bag for each boy. A fire was then lighted in front of the semicircular enclosure and a number of green bushes were cut by the men, and placed close at hand for use presently.

About an hour or two after dark the contingent from the bush make their appearance. The novices, accompanied by the guardians walking beside them, now advance towards the fire, a number of men marching behind them, beating boomerangs, or other weapons together. The mothers of the boys are standing near the fire, and when they see the boys coming forward, they throw some of the bushes upon it. The guardians and novices then walk quite close to the fire, some of them standing on the green bushes, and the smoke ascends up around them all. As soon as they are sufficiently smoked, they walk into the enclosure, and are conducted by their guardians to the platform and placed sitting down, each beside the dilly bag belonging to his own mother.

In the meantime all the men present have been smoked in a similar manner by the women at the fire, more green bushes being added as required. When the novices, and all the men who have been out with them in the bush, have been smoked in this way, the women go into the enclosure.² Each mother then advances and taps her son on the shoulder with her open hand, at the same time laying some food on top of the dilly bag beside him, which he takes and puts into the bag. The mothers would then go away to their own camp, and the boys

¹ "Journ. Anthropol. Inst.," xiv, 310.

² *Loc. cit.*, 311-312.

with their guardians would remain in the enclosure for the night. Next day they are brought into the single men's camp, but are not allowed to mix with the women or children. This being the last ceremony necessary to admit the novices to the privileges of probationers,¹ all the tribes assembled from the other districts return to their respective homes.

Conclusion.—In this, as well as in other papers on the initiation ceremonies of the Australian aborigines, it will be observed that I have confined myself as much as possible to descriptions only. Considerations of space have compelled me to omit many particulars which I could have wished to include, and to abbreviate others which I should have liked to describe more in detail; but it is hoped that the information which I have collected will be found sufficiently full for purposes of comparison with similar rites celebrated in other parts of Australia. I have in my note books a mass of information gathered from the headmen of various tribes, with whom I have been in conversation, bearing on the reason of many parts of the ceremonies, and their meaning, which will be dealt with in another paper on a future occasion.

The Wiradthuri community occupied a wide tract of country in the interior of New South Wales, commencing near the Barwon river, and extending thence southerly to the Murray. My two papers on the Bûrbung will be found to contain, in a condensed form, the initiation ceremonies practised throughout this vast area; there are local differences in the mode of carrying out the details, but the essential parts of the rites are substantially the same.

Owing to their class and totemic divisions, the Wiradthuri tribes are ranked with those forming what has been called the "Kamilaroi Organisation," for particulars of which the reader is referred to my paper on "The Kamilaroi Class System of the Australian Aborigines," published in the "Proceedings of the Royal Geographical Society of Australasia," Queensland Branch, vol. x, pp. 18-34.

Adjoining the Wiradthuri community on the south-east, and extending thence to the Pacific Ocean, are a number of tribes spread over the coastal districts of New South Wales from about Twofold Bay to Sydney or Newcastle. The form of initiation ceremony practised by these people is known as the *Bunan*, a full account of which is given by me in a paper contributed to the Anthropological Society at Washington, U.S.A., and published in the "American Anthropologist."² Among a

¹ These neophytes must attend at least two more Bûrbûngs before they will be entitled to claim the full status of tribesmen.

² "Am. Anthropol., Wash.," ix.

section of these tribes there is also an abbreviated ceremony termed the *kūringat*, used under certain circumstances, which has been described by my friend and fellow worker, Mr. A. W. Howitt,¹ and is further illustrated and explained by me in a subsequent paper.²

AN ACCOUNT OF SKULLS FROM MADAGASCAR IN THE ANATOMICAL MUSEUM OF CAMBRIDGE UNIVERSITY. By W. LAURENCE HENRY DUCKWORTH, B.A., Fellow of Jesus College.

[WITH PLATE XXXI.]

THE University collection contains three skulls from Madagascar of which one was presented by the Rev. C. P. Cory, the other two by the Rev. J. W. Mathews. The donor of the first writes to say that he obtained the specimen himself from the east coast, at some risk, for the natives venerate the dead, and is of opinion that it belonged to an individual of one of the woolly-haired tribes, probably the Betsimisaraka. The other two skulls are labelled "Skull of a Betsileo" and "Skull of a Hova" respectively.³

In no case does the mandible accompany the skull; the principal features of the latter are as follows:—

The first, that of a native of the Betsimisaraka or Betsim-sarak tribe, has been embedded in vegetable mould, some of which still adheres to its base, and which has stained the bone a brownish red colour. The zygomatic arches, pterygoid plates, and alveolar border have sustained some damage. The absence of strongly marked muscular ridges and other features distinctive of sex causes some hesitation in pronouncing on this point, but the balance of evidence appears to indicate a female; the remaining teeth are of large size and being but little worn indicate that the individual was in the prime of life.

The profile view (*norma lateralis*) shows slight prognathism; the general outline of the face is somewhat flattened, the naso-frontal depression being quite shallow, and the forehead high; the contour of the cranial vault is uninterrupted by flattening, and forms a continuous curve from nasion to inion. On either side, the frontal and temporal bones are separated at the pterion by a narrow spur-like projection of the parietal bone. The *conceptacula cerebelli* are large and bulging.

In *norma facialis*, narrowness is a notable feature, the orbital axes droop slightly externally, the canine fossæ are remarkably

¹ "Journ. Anthropol. Inst.," xiii, 432-439.

² *Ibid.*, xxv, 316-317, Plate XXVII, Sec. 2.

³ The Betsimisaraka tribe occupies the east coast, the Betsileo the central southern districts.—Sibree.

shallow, and the lower margins of the apertura pyriformis, of the nose are indistinct.

In *norma basilaris*, the palate is seen to be wide and deep and its anterior foramen of considerable size. The occipital condyles are small, rounded, and everted, and are situated towards the anterior part of the lip of a large foramen magnum.

The specimen labelled "Skull of a Betsileo" is that of an adult male. Like the preceding it has been stained by the action of vegetable juices, and is in a fairly good state of preservation, though the zygomatic arches and the internal skeleton of the nose have been somewhat damaged. The sex is unmistakably indicated by the prominences of the glabella and inion, as well as by the prognathous upper jaw and the large size of the remaining teeth. The cubical capacity is also considerable.

In *norma lateralis*, the prognathism appears to be mainly sub-nasal, the profile of the face is somewhat flattened and the fronto-nasal depression shallow. The curve of the cranial vault as in the preceding specimen is uninterrupted by flattening from ophryon to inion. The sutures, as a whole, are remarkably free from synostosis, and there is a wormian (epipteric) ossicle at each pterion.

In *norma facialis* a slight degree of scaphocephaly is noticeable, and the face is long and narrow with sharp-bordered orbits whose axes are nearly horizontal. The nasal bones are short and flat, the nasal processes of the maxillæ massive, the canine fossæ remarkably shallow, and the inferior margins of the apertura pyriformis of the nose are replaced by gutters (*gouttières simiennes*).

In *norma basilaris*, the width and shallowness of the palate with moderate tubera maxillaria are to be noted. On the right side the foramina spinosum and ovale are confluent.

The third specimen is labelled "Skull of a Hova," and is in good preservation, though it has been perforated in the region of the obelion. The full dentition and the closure of the

Description of Plate XXXI.

Fig. 1.—Profile views (*norma lateralis*) of { skull of Makua (to the left).
skull of Betsimisaraka.
skull of native of Mobangi (to the right).

Fig. 2.—*Norma facialis* of the same.

Fig. 3.—Skulls of Dyak from Borneo (to left), and Hova from Madagascar in *norma lateralis*.

Fig. 4.—*Norma facialis* of the same.

The writer is indebted to Mr. F. W. Green, of Jesus College, Cambridge, for the above photographs.



1



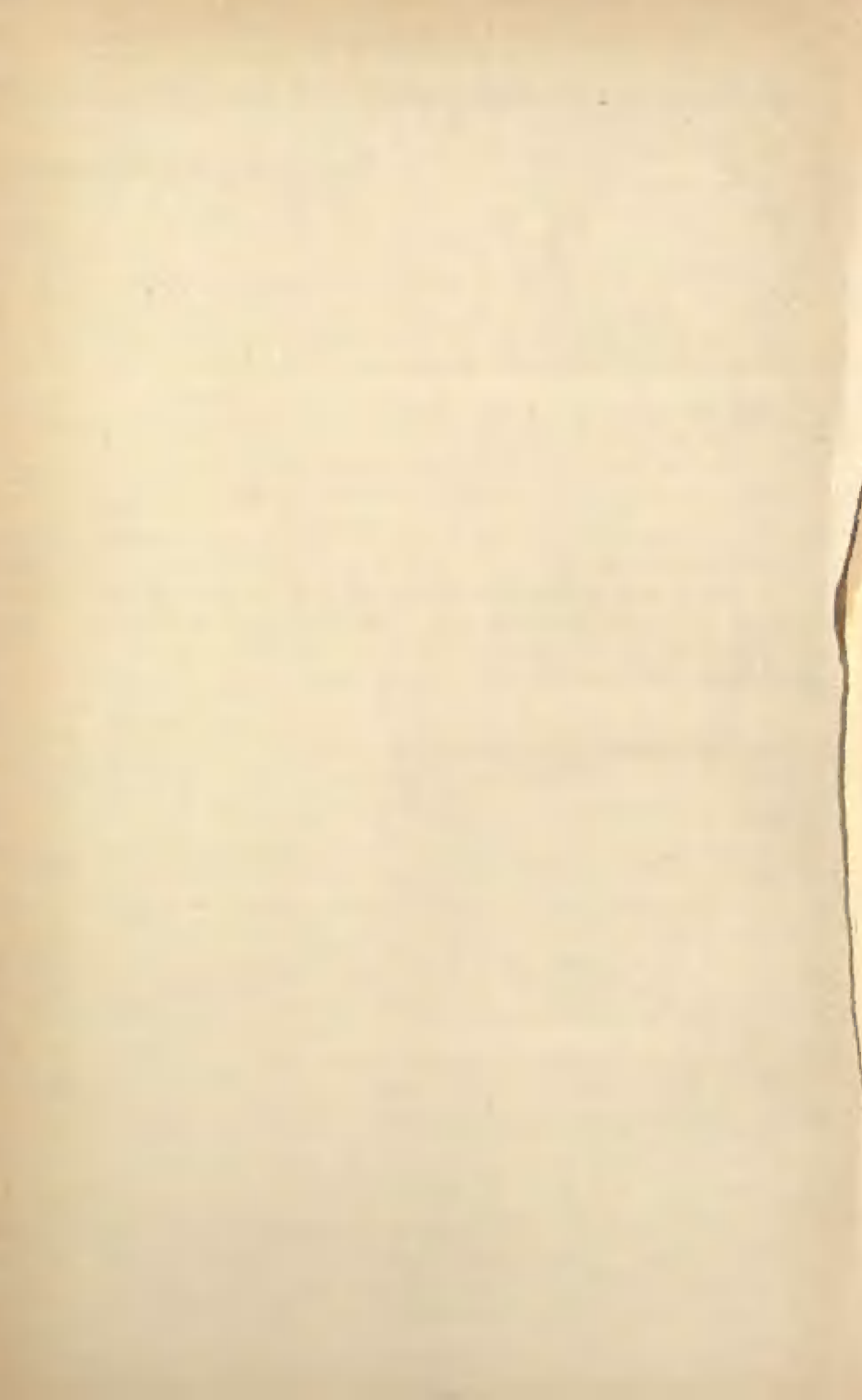
2



3



4



basilar suture indicate maturity, and the stout zygomatic arches, pronounced glabella, and large teeth indicate the male sex of this specimen. It is bleached as though it had lain in dry dusty soil, and thus presents the first of a number of points of difference from the two preceding skulls. For this is a short, round skull, prognathic to a slight degree only when viewed in *norma lateralis*. In *norma facialis*, the width of the face appears greater than in the two preceding cases; the orbits are large and their axes droop slightly externally, the canine fossæ are deep, the nasal bones prominent, the apertura pyriformis wide and with sharp inferior margins.

In *norma basilaris*, the shortness of this skull is evidenced in the arrangement of the structures at its base. The palate is wide and deep, the remaining teeth but little worn. Some destruction, due to weathering, has occurred near the foramen magnum, which is of moderate (relative) size and roughly diamond-shaped.

The above notes on the craniological features of the specimens may now be supplemented by a few words on the table of measurements.

With regard to the first specimen, the Betsimisarakaka, the cubic capacity is 1450 c.c.; the maximum length is considerable, viz., 186 mm.; the dolichocephalic character is clearly shown by the breadth index which nearly approaches the vertical index. (71 = breadth index, 70 = vertical index.)

In the case of the Betsileo skull, the cubic capacity is somewhat greater than in the preceding example, being 1480 c.c., the lengths almost identical; the cephalic index again denotes marked dolichocephaly and equals the vertical index (72.4).

In the third case, the cubic capacity falls short of that of either the preceding specimens, being only 1315 c.c. The breadth index denotes the marked brachycephalic character and somewhat exceeds the vertical index. A dental index could be calculated and the figure (43.15) places this skull in the mesodont group.

It is now possible to institute comparisons between these skulls and to attempt to trace resemblances between each in turn and specimens from other parts of the world. First, it is evident from a brief survey, that Madagascar can furnish at least two types of crania; for the two specimens first described correspond nearly in general features, and both differ from the third. Thus appearances indicate that the Betsimisarakaka and Betsileo skulls are long and narrow, with narrow and flattened faces; to such general features may be added similarity in the shape and disposition of the tympanic ring at the external auditory meatus (viz., downward prolongation); the compara-

tively deep glenoid fossa; the relatively large foramen magnum. Whereas the Hova skull is broad, the face wide, the nose prominent, there is but slight downward prolongation of the tympanic ring, and the glenoid fossa is shallow. Some of which is reiterated by the table of measurements, which leads to the recognition of similarity between the first two, particularly in the following points:—

Character.	Betsimisaraka.	Betsileo.	Hova.
Cubic capacity	1450	1480	1315
Horizontal circumference	511	515	483
Maximum length	186	185	168
Maximum breadth	132	134	133
Nasomalar index	108·5	109·7	113·5

while both contrast with the Hova in all respects save the breadth. Such facts point to what has already been expressed in this Journal and elsewhere, viz.: that among the various races now inhabiting Madagascar some are distinctly dolichocephalic, others decidedly brachycephalic. And, moreover, that the former type is that of the wilder tribes whose affinities seem to rank them with the negro races, while the latter class is represented by the more civilised Hovas, who are regarded as of Malayan origin.

The evidence for such statements comes from several sources, for instance the physical appearance, the language, history, legends, customs, and arts, of the respective tribes, and this paper will be concluded by a brief review of the results of the study of the first of these more particularly in respect of craniology.

The accounts already published of the Betsimisaraka and Betsileo tribes are not very numerous. A good bibliography up to the year 1885 is given by Professor Max Leclerc in a most interesting paper published in that year in the "*Revue d'Ethnographie*." It is therein recognised that a great diversity of races is met with in Madagascar. There seems to be no certain evidence of the characters of the aboriginal inhabitants.

The earliest race of which any record is left (the Va-Zimba) has been thought to be allied to the Bantu family. It was succeeded by various tribes which agree in certain negroid characteristics and among which are the Betsimisaraka and Betsileo. But here the difficulty arises of ascertaining whether the features referred to as negroid approximate these tribes to the African or to the Oceanic negro.

MM. de Quatrefages and Hamy report ("*Crania Ethnica*")

that of the various tribes some (viz., the Sakalaves and Ant-chianakas) are nearly allied to the Bantu family, whereas others (such as the Antankares and Betsimisarakas) are more decidedly negro than the former. Leclerc (*loc. cit.*) suggests a common origin for these and the Betsileo tribes, and regards this original race as African. Herein he is opposed to such writers as Grandidier, Oliver, Sibree, Ellis, who regard such an origin as "Oceanic"; while de Quatrefages in a later work¹ (1889) than the "*Crania Ethnica*" considers the races of Madagascar as allied to the Papuans rather than to the negroes of Africa. Writing in this Journal in 1892, Professor Sibree described the Betsileo as a race darker in colour than the Hova, probably descended from Melanesian ancestors or from a mixture of dark and light Pacific islanders, and supports the statement by evidence from the character of certain ornamental carvings.² Another view is that of Macé-Descartes (quoted by Leclerc, *loc. cit.*), who regards the Betsileo as allied to the Hova race.

MM. de Quatrefages and Hamy besides basing their opinion as to the Papuan affinity of these tribes on considerations of language, remark on certain of their cranial characteristics, notably hypsistenocephaly and frontal compression, which are known to distinguish Papuan skulls. But of the series of figures they publish, it appears that in the case of three male Betsimisaraka skulls only, do the proportions approach those of Melanesian skulls, for in these three the dimensions give to the average a marked degree of hypsistenocephaly and a moderately low nasal index. In contradiction to such an indication must be mentioned the high figure representing the orbital index. In the same table, measurements relating to two female Betsimisaraka skulls show that in these the vertical index is as much below the breadth index as it was above it in the case of the male skulls.³

Finally, a skull from Madagascar in the Museum of the Royal College of Surgeons is distinctly platycephalic. So that from measurements on actual specimens, but little evidence can be brought forward with regard to the Betsimisaraka, and even less with regard to the Betsileo skull.

This being so, the Betsimisaraka and Betsileo skulls in the Cambridge Museum were compared with other specimens in that collection with the following results. That from appearances no distinct resemblance to the Melanesian skulls can be discovered, the chief differences being in respect of size of facial

¹ "*Histoire générale des Races Humaines.*"

² Certain Betsileo designs of carving almost exactly reproduced in the Hervey islands.

³ A condition characteristic of female skulls of various races.

skeleton, prognathism, depth of canine fossæ. Neither can resemblances be traced to the Kaffir skulls, or to some negro skulls from the west coast of Africa. There are, however, two African skulls which bear a general resemblance in shape to the Betsimisaraka skull. One of these is that of a Mobangi native from Central Africa about a thousand miles from the mouth of the Congo, the other that of a Makua native from near Zanzibar. Besides the general aspect and contour, the Mobangi skull is not far removed in proportions from the Betsimisaraka. The Makua skull is much smaller than either and agrees only in minor details of measurement. Figures representing some of the chief dimensions of these skulls have been arranged in a comparative table, together with figures relating to the specimen from Madagascar, in the museum of the Royal College of Surgeons. (Flower's "Catalogue," No. 1306.)

So that if one might argue from so few examples, the indications are to regard the affinities of these tribes (despite their language) as approximating them to certain African negro races, though it is possible that the latter themselves may have some connection, as yet unrevealed, with the Oceanic negroes (v. Max Leclerc, *loc. cit.*).

There remains to consider the Hova skull. Though the date of the arrival of the Hovas in Madagascar is uncertain, yet there seems to be some evidence for placing it in the 7th century A.D. Physical conformation, tradition, and language point to an origin which may be referred to as Indonesian.

MM. de Quatrefages and Hamy ("Crania Ethnica") record the occurrence in a Hova skull of a cranial deformity previously met with in the Malay peninsula. These authors also state that the Hova skulls resemble certain skulls of the Antankares (one of the wild tribes of Madagascar who have mingled with the Hovas), and describe an Antankare coffin as very similar to those in use in the Philippine Islands, while the skull of the contained corpse was brachycephalic, and of an Indonesian type. The measurements recorded by these authors as the mean of two male specimens, are not closely approached by those of the Hova in the Cambridge collection, for the latter is of smaller capacity and more distinctly brachycephalic than the former. No strong resemblance can be traced to either the Polynesian specimens or to a skull from Manilla in the Cambridge museum. However a most striking similarity is found between the Hova skull and that of a Dyak from North Borneo in the same collection, and this similarity in form and proportion is confirmed by the principal measurements and indices which have been tabulated side by side, and in almost every instance correspond closely, the only notable exception being the nasal index. On

searching for measurements of other Indo-Malayan skulls, two specimens in the museum of the Royal College of Surgeons seem to approach in proportions those just mentioned, and the figures relating to these have been added to the comparative table. Finally the measurements of a skull from the Philippine Islands (recorded in the same volume of Flower's "Catalogue") present a number of features similar to both the Hova and Dyak skulls, and are of increased interest in consideration of the statements of MM. de Quatrefages and Hamy in regard to the Antankare and Hova tribes of Madagascar (*v. supra*).

In conclusion, a study of the specimens at Cambridge shows that the Hova skull finds its counterpart in one from Borneo, and differs widely from the Betsileo and Betsimisaraka skulls; that the two latter agree in such features as distinguish them from the Hova, and resemble certain skulls from the African continent rather than any Oceanic specimens.¹

TABLE I.

DIMENSIONS OF SKULLS FROM MADAGASCAR IN THE ANATOMICAL MUSEUM, CAMBRIDGE UNIVERSITY.

Catalogue No. of Skull ..	1783	1784	1785
Sex	—	Male.	Male.
Approximate Age ..	Adult.	Aged.	Adult.
Cubic capacity	1450	1480	1315
Maximum length	186	185	168
Ophryo-iniac length	179	178	162
Ophryo-occipital length	183	183	165
Occipito-spinal length	179	192 (?)	170
Occipito-alveolar length	187	200 (?)	178
Maximum breadth	132	134	138
Bi-asterial breadth	106	110	109
Bi-stephanic breadth	109	109	120
Bi-auricular breadth	111	115	117
Minimum frontal breadth	94	98	92
External bi-orbital breadth ..	98	108	105
Minimum inter-orbital breadth ..	27	27	29
Bi-zygomatic breadth	115 (?)	130 (?)	130
Bi-malar breadth	108 (?)	115	113
Bi-maxillary breadth	90 (?)	100	92

¹ Since the foregoing account was written, I have read the important paper on Skulls from Madagascar by Prof. Virchow ("Verhandlungen der Berliner Gesellschaft für Anthropologie": Sisy und vom 18 Juli, 1896). Without attempting to discuss this paper, I will mention that the measurements there given of two Hova skulls approach most nearly those of the Betsileo skull described in the present paper.

TABLE I—*continued.*

Catalogue No. of Skull ..	1783	1784	1785
Sex	—	Male.	Male.
Approximate Age	Adult.	Aged.	Adult.
Jugo-nasal breadth	94	103	96
Ophryo-alveolar length	92	92	87
Nasi-alveolar length	70	68	65
Basi-alveolar length	95	101 (?)	92
Basi-nasal length	95	101	95
Basi-glabellar length	105 (?)	109	102
Basi-bregmatic length	130	134	132
Basion to obelion: length	128	132	122
Basion to lambda: length	115	119	110
Basi-iniac length	80	85	75
Basion to opisthion length	39	38	34
Breadth of foramen magnum	32	31	31
Orbital height	30	33	33
Orbital breadth	35	40	37
Nasal height	49	50	45
Nasal breadth	28	31	28
Palato-maxillary length	40 (?)	53	52
Palato-maxillary breadth	58 (?)	65	65
Anterior palatine breadth	28	28	27
Posterior palatine breadth	37 (?)	42	41
Arce: Frontal	131	133	129
Parietal	128	128	114
Occipital to <i>inion</i>	69	66	60
Occipital, <i>inion</i> to <i>Opisthion</i>	50	50	46
Supra-auricular	303	310	309
Oblique parietal	351	363	359
Jugo-nasal arc	102	113	109
Horizontal circumference	511	515	483
Height of choanse	35 (?)	?	30
Breadth of choanse	32 (?)	33	30 (?)
Length of floor of nasal cavity	38 (?)	?	36
Least distance between temporoal crests.	94 (?)	104 (?)	124 (?)
Weight of skull (without jaw) ..	445	533	418
Combined length of three molar teeth.	—	—	28 L.
Combined length, molars and pre-molars.	—	—	41 L.
Indices: Cephalic	71	72.4	82.1
Vertical	70	72.4	78.6
Alveolar	100	100 (?)	97
Orbital	85.7	80.25	89.2
Nasal	57.14	62	60
Palato-maxillary	?	122.6	125
Facial superior (Broca)	80 (?)	70.8 (?)	66.9
Facial superior (Köllmann)	60.9 (?)	52.3 (?)	50
Stephano-zygomatic	94.8 (?)	83.1 (?)	92.3
Naso-malar	108.5	109.7	113.5
Dental (Flower)	—	—	43.15

TABLE II.
COMPARISON OF SKULLS FROM MADAGASCAR WITH OTHER SPECIMENS.

Skull	1784	1783	1749	1303	1727	1785	1787	732A.	744	747
Measurement or Character ..	<i>Betsileo.</i>	<i>Betsimisaraka.</i>	<i>Mobangi.</i>	<i>Mojambé.</i>	<i>Makua.</i>	<i>Hova.</i>	<i>Dyak.</i>	<i>Java.</i>	<i>Borneo.</i>	<i>Philippine.</i>
Age and Sex	Adult ♂	Adult ♀	Adult?		Adult.	Adult ♂	Adult ♂	Adult ♂	Adult ♂	Adult ♂
Cubic capacity	1480	1450	1360	1400	—	1315	1378	1370	1410	1240
Maximum length	185	186	177	185	169	168	165	172	173	165
Maximum breadth	134	132	133	141	126	138	138	139	142	140
Vertical (B.-Br) Height ..	134	130	133	127	114	132	133	135	135	127
Basal-alveolar length	101	95	99	102	91	92	90	102	97	92
Basal-nasal length	101	95	98	95	86	95	97	100	98	90
Horizontal circumference ..	515	511	504	524	480	483	485	498	498	483
Cephalic index	72.4	71	75.1	75.8	74.6	82.1	83.6	80.8	82.1	84.8
Vertical index	72.4	70	75.1	68.3	—	78.6	80.6	78.5	—	77
Alveolar index	100(?)	100	101	107.4	105.8	97	92.8	102	99	92.9
Orbital index	80.25	85.7	100	82.5	89.2	89.2	89.2	90	87.2	88.9
Nasal index	62	57	58	55.1	66.6	60	49	54	47	48.9
Naso-malar index	109.7	108.5	111.4	—	103.7	113.5	108.6	—	—	—
Facial index, Köllmann ..	52.3(?)	60.9(?)	57.25	—	49.5	50	50.4	—	—	—

The dimensions of the Hova skull nearly approach those of a female Hova skull measured by MM. Quatrefages and Hamy, and its appearance in general resembles that of a Hova skull (Collection Daillé) figured in their work ("Crania Ethnica").

Reference to specimens in the Museum of the Royal College of Surgeons:—

No. 1306. A skull from the N.W. coast of Madagascar.

No. 732A. A skull from Java.

No. 744. A skull from Borneo.

No. 747. A skull from the Philippine Islands.

ANTHROPOLOGICAL MISCELLANEA AND NEW BOOKS.

Readers of the Journal are invited to communicate any new facts of especial interest which come under their notice. Short abstracts of, or extracts from letters will be published at the discretion of the Editor. Letters should be marked "Miscellanea" and addressed to The Secretary, 3, Hanover Square, W.

Aboriginal Goldsmiths' Work in Colombia.

The methods in use by primitive peoples in working metals are always of interest, and I venture on that ground to call attention to an illustration of the way in which the *repoussé* gold figures are made, so commonly found in the Republic of Colombia (New Granada). The figure will explain the character design of the small stone model in question; the designs represent busts with the radiating feather head-dress that may be called characteristic of the ancient Mexican and more southern races; and upon three of the edges of the stone are figures somewhat like the well-known "Nilometer." A model similar to this is figured by Vicente Restrepo in "*Los Chibchas antes de la Conquista Española*"—Bogotá, 1895. Atlas, Plate XLI, Fig. 129. In the description of the plates it is called "*Piedra con figuras realizadas*," and there appears to be nothing in the text to explain its use. This I take to be undoubtedly for the making of the *repoussé* figures which are found in rows upon the larger gold ornaments of Colombia, as well as in single figures as pendants for necklaces, etc. The small Nilometer-like columns are also for necklaces, and the Christy Collection (British Museum) possesses several that might almost have been made from this very model. Señor Restrepo's Atlas above referred to contains many illustrations of the gold ornaments of these types. The length of the model is $3\frac{1}{4}$ inches.



C. H. READ.

Note on a Moriori Skull, from Waitangi West, Chatham Islands. Collected by Mr. J. W. Williams, presented to the British Museum by Sir A. Wollaston Franks, K.C.B., F.R.S.

The cranium has no lower jaw belonging to it. It is that of a powerful male, with well developed mastoid processes and occipital ridges, and of a person probably beyond middle age. Most of the sutures, especially the coronal and sagittal, are almost obliterated, but the lambdoidal is open, with very complex denticulations. It is very heavy and thick. Most of the teeth have been lost during life, and those that remain, viz., three incisors, the canines, the first premolars and the last molars, are worn down almost to the level of the alveolar margin. There is a large cavity, as of an abscess, opening on the surface, over the root of the left canine. The forehead is narrow and low, the parietal eminences very prominent. The jugulars strongly phanogygons. The orbits nearly square. The nasal bones narrow and prominent at their lower ends, indicating a fairly high bridge to the nose. The nasal spine well developed, but the margin of the aperture on each side of the spine indistinct, the floor of the nasal chamber passing insensibly on to the alveolar surface.

Taken altogether it is an extremely characteristic Moriori cranium, as the principal indices show when compared with those of seven specimens contained in the museum of the Royal College of Surgeons.¹

	Millimetres.	Average indices of seven Moriori skulls in Museum Royal College of Surgeons.
Length	193	
Breadth	152	
Height	140	
Length index	— 78·8	77·9
Height index	— 72·5	75·0
Basal-nasal length	106	
Basal-alveolar length	106	
Gnathic index	— 100	99·1
Nasal height	54	
Nasal width	25	
Nasal index	— 46·3	45·1
Orbital width	40	
Orbital height	36	
Orbital index	— 90·0	93·1

With the cranium were two lower jaws, neither of which belongs to the same individual. One is that of a person equally or still more aged, the stumps of only three teeth remaining in place, the

¹ See "Catalogue" (1879) by W. H. Flower.

two incisors and the middle molar of the left side, and all worn down to the level of the alveolar margin.

In the other, that of a much younger person, the whole of the teeth were in place at the time of death, although more than half of them have now fallen out of their sockets. Those that remain already show considerable abrasion of the grinding surface, so that it is clear that the food of these people must have contained a large proportion of sand or gritty material, which alone can cause such extensive wear. A similar condition of teeth is generally seen in the Indians of British Columbia, who subsist very largely upon salmon dried in the air, and often exposed to sandstorms in the process. It was also common among the ancient Egyptians.

W. H. FLOWER.

"Signalctic Instructions, including the theory and practice of Anthropometrical Identification." By Alphonse Bertillon. Translated from the latest French edition under the supervision of Major R. W. McClaughry, late General Superintendent of Police of Chicago. The Werner Company, Chicago, New York and London. 1896.

The recent adoption of the Bertillon system of identification by the Scotland Yard authorities has been the means of arousing a certain amount of public interest. Those who are not familiar with the work of the French anthropometrist, have now an opportunity of acquainting themselves with all the details of the system, by consulting the translation issued by the Werner Company of Chicago and New York.

The work is conveniently divided into three parts:—An Introduction, Instructions for Signalments, and an Appendix.

The general reader will find most that will interest him in the somewhat lengthy Introduction. It practically amounts to a dissertation on the whole subject, the remaining portions of the book being devoted to purely technical details.

An individual may be recognised by a variety of means. The measurements of certain definite parts of his body may be taken and recorded. A description of his personal appearance, including details regarding the colour of his eyes, skin, and hair, together with an account of the form of such features as the nose, mouth, and ear, &c., may be carefully prepared, and finally a statement including a description of all peculiar marks may be drawn up. These three kinds of signalment are carefully considered in the present work, and their respective merits discussed. It is with the first of the group that Bertillon's name is more immediately associated, though one cannot read the book through without realizing the great amount of time and labour the author has expended on the descriptive signalment, and the signalment by peculiar marks.

Of the three methods, the most satisfactory, from a scientific point of view, is that which is based on accurate measurements. Not only is there more certainty in the results obtained, but the

system lends itself to a comparatively simple method of classification, so convenient to work, that there is no difficulty in finding, in a few minutes, the duplicate of a card in a cabinet containing say 40,000 anthropometrical signalments. This system entails the employment of skilled assistants throughout the country, and it is in the instruction of these that the voluminous details given by M. Bertillon will be of immense service.

The measurements adopted by M. Bertillon are those of height, reach, trunk, head length, head width, bizygomatic width, length of left foot, left medius, left forearm, diameter of right ear, and length of left ear. The Scotland Yard authorities, acting on the advice of Dr. Garson, have discarded some of these as of comparatively little importance, and have thus reduced both the number of measurements necessary, and the time taken up in recording them. The exceptions are the measurements of the reach, the trunk, and the diameters of the ears. It is noteworthy, too, that we have adopted the measurement of the face width (bizygomatic width) which M. Bertillon at first omitted, but which he now includes in the later instructions.

So far the system adopted has proved of the greatest value, not only in detecting the old offender, but in protecting the innocent, and if at first the margin of error appears somewhat small, experience in working has proved that remarkable accuracy of results is attained. M. Bertillon is careful to point out almost all possible sources of error, though it is curious that whilst he lays stress on the fact that the subject should be prevented from contracting his eyebrows when the measurement of the head length is taken, yet he fails to note that when the head width is being measured the subject should be asked to open his mouth, so as to ensure that the measurement may not be increased by a greater thickness of the temporal muscles, due to their contraction during firm closure of the jaws.

But whilst the anthropometric signalment fulfils nearly all the conditions necessary for its applications to the adult, it is open to this serious objection, that it is practically useless before the age of 20. This is extremely unfortunate, as it is precisely at this period of life that we can hope to reclaim the juvenile offender, and do our best to prevent him becoming an habitual criminal.

In such cases the police must have recourse to the descriptive signalment, and this brings us to the second means of identification as classified by Bertillon. On this subject the author has brought to bear his vast practical experience, as well as his knowledge of scientific methods, with the result that the section on this subject is most exact and elaborate. Such a signalment may be either a written statement, or its place, where possible, may be taken by a photograph. The latter is certainly more convenient and valuable. It is in the preparation of this written descriptive signalment that we feel most inclined to differ from the author. It seems to us that in his attempts to be accurate, and in his endeavours to reduce all descriptions to a common system, he has

erred on the side of undue elaboration. In order to render the system workable, it has been necessary to have recourse to abbreviations, and these unhappily for us are based on the French words, of which they are the contracted forms, as, for instance *rel.* for elevated (Fr. *relevé*), and *ab.* for depressed (Fr. *abaissé*). Before such a system can ever come into operation it would be necessary to have some sort of international agreement as to the terms employed, and even then it would be cumbrous, besides involving the expenditure of much time and labour in acquiring a knowledge of it. One cannot help thinking that there is a great difference between its existence on paper as an ideal scheme, and its practice by officers, of whose duty it only forms a part. None the less M. Bertillon has done good service in emphasizing the importance of certain physical characters in this connexion. Thus he lays great stress on the value of the ear as a means of identification, a fact which he further confirms at p. 176, by a table wherein is given a list of abbreviations (to the number of 63), of the "morphological qualifications of each part of the ear."

Most, if not all the difficulties of a descriptive signalment are overcome by the use of photography. As these photographs are pasted on the cards of the anthropometrical signalments they are necessarily classified along with them. In this way the photograph of a suspect can easily be compared with that taken previously if he has been already measured. Accordingly the photographs are much more valuable now than in the days when a detective had to spend much of his time turning over the pages of the official albums on the off chance of recognising the portrait as that of a convicted criminal. In order that the photographs may be readily compared, it is necessary that they should be taken under the same conditions of light, and in similar poses. Adequate instruction is given in regard to these matters in an appendix dealing with Judicial Photography, but unfortunately the nature of the lens employed is not mentioned. This is a matter of some practical importance. The longer the focus of the lens the less the perspective of the object is forced when the reduction is to the same scale, and hence there is less distortion than when a lens of shorter focus and wider angle is used. This has always been urged as a reason why photography should not be employed in delineating skulls. But provided a satisfactory lens is made use of, these objections are reduced to a minimum. In the present instance the reasons are perhaps not so obvious, but it would have been well to have drawn attention to the fact, the more so as it would have lead to more uniformity in the results.

The third form of signalment is that relating to peculiar marks. The author insists on accuracy of description, pointing out that "the signalletic power of a peculiar mark increases in geometrical progression, according to the precision with which it has been described." Here again contractions are largely made use of, as the space on the signalletic card is but small, thus:—

Cic. r. of Ib. e. ml. 2^d f. M. g. p.

means—*caratrix* rectilinear, of a dimension of one centimetre, oblique external, on middle of second phalanx of middle finger, left side, posterior face.

We have the author's authority for stating that "an apprenticeship of some days is sufficient for the attainment of a maximum of speed" in writing and reading the contracted forms. We hesitate to say it, but it must be that French prison officials are much quicker in the "uptake," as the Scotch say, than our own police.

It is satisfactory to know that M. Bertillon has recognized the value of finger prints as a means of identification; in this respect therefore the systems of the French and English police are in agreement.

The book is indispensable to every one interested in the question of personal identity. The author's knowledge is such that his methods are based on practice, and his warnings are the outcome of experience. We like the first part of the book best, viz., the Introduction and that part which refers to the anthropometrical signalment. As we have said, we regard that part which deals with the descriptive signalment as less successful, not that the author has taken less pains with it; in fact, it seems to us that, in his anxiety to provide a scientific method of description, he has so overburdened his subject with details as to render it unworkable, except under very extraordinary conditions.

A passing word of praise in regard to the illustrations, and the album. The latter will well repay inspection, and will give rise to doubts in the minds of many whether craniometry has much advanced our knowledge of the appearance of the head and face in the living.

A. T.

The Natives of Sarawak and British North Borneo. By H. Ling Roth. With a preface by Andrew Lang. 2 vols. 8vo. Over 550 illustrations. London: Truslove and Hanson. 1896

Mr. Ling Roth has done a great service to Anthropology in compiling this very valuable compendium of the ethnography of the Northern tribes of Borneo. As in his well-known little book on "The Aborigines of Tasmania," he has brought together the results of wide reading, and both works are indispensable as books of reference for those who desire to make themselves acquainted with the islands in question; but the next publication has the advantage of dealing with peoples yet alive, and about whom we may yet hope to learn a good deal more. Such books as this save the student an immense deal of weary labour in hunting up authorities. Their advantage to anthropological science is also very great, for not only do they diffuse information, and may even awaken a permanent interest in anthropology; but by bringing together scattered facts, the latter tend to mutually elucidate one another, and conversely there is a demonstration of the gaps in the information, and of imperfections in the interpretations which haply may be supplemented before it is too late. How many

examples there are where this is now impossible—of Tasmania, for example, one may almost describe our information as being composed of gaps.

This work is based on the notes of the late Hugh Brooke Low, but free use has been made of the descriptions of a large number of travellers, and in all cases precise references are given, which enable the reader to verify the transcriptions. The book deals with the physical and mental characters and distribution of the various tribes of Sarawak and North British Borneo, their birth, marriage, and funeral customs, their religion, legends, and festivals, the medicine men and women, and the native diseases. The daily life is fully considered including its duties, such as agriculture, hunting and fishing, and its pleasures, such as the employment of narcotics. The houses are described, and the implements and weapons, as well as the domestic arts of weaving, dyeing, painting and tattooing. Government and trade, slavery and other aspects of social life, are detailed, and also the anti-social habits of head-hunting and poisoning. The vocabularies fill 160 pages of the Appendix, but the more important structure of the languages is practically totally ignored; and there is also added a translation of the very excellent observations made by Dr. Schwane.

Most of the aspects of native life are dealt with as fully as the existing materials permit, and so we can gain a very complete idea of the appearance, life, arts, and crafts, actions and beliefs of these interesting people. It is certainly a matter of regret that the account of the craniology of the natives is so extremely meagre. The index is full, and the items are arranged alphabetically within a comparatively small number of groups, such as agriculture, character, music, war, etc. The book is profusely illustrated mainly with clever sketches of objects in various museums, but suitable illustrations have been freely borrowed from other sources. In looking through the illustrations of decorated objects, one is impressed with the idea that a careful study of the decorative art on the spot would well repay any traveller; investigations carried on in museums are at best very unsatisfactory.

Altogether both the author and the publishers are to be congratulated on the "get-up" of the book.

A. C. H.

The Whence and the Whither of Man: a brief History of his Origin and Development through conformity to Environment. By J. M. Tyler, Professor of Biology, Amherst College. W. Blackwood and Sons. 1896. 8vo. 312 pp.

This is not an anthropological book in the limited sense of the term, but one which is calculated to awaken an interest in many of the broader problems of anthropology in religiously minded people. The book is the embodiment of a course of "Morse

Lectures" delivered in the Union Theological Seminary; this trust was founded for lectures which have to do with "The relations of the Bible to any of the sciences." So far as we have noticed, Professor Tyler's science is sound, and he deals with the physical structure of man, his evolution, and the development of individual and social morality in a broad-minded manner. The tone of the book is deeply religious in the best sense of the term.

Recent Books on Oceanic Philology.

1. "A Dictionary of the Language of Mota, Sugar Loaf Island, Banks' Islands." By Rev. R. H. Codrington, D.D., late of the Melanesian Mission, and Ven. J. Palmer, B.D., Archdeacon of Southern Melanesia. With a short Grammar and Index. Society for Promoting Christian Knowledge, London, 1896. 8vo. pp. xxiii and 312.

This work is an important addition to the literature of the Melanesian Islands, and will be found of interest to the anthropologist as well as to the philologist. Though the language is only that of a small population of less than one thousand, it has been used for the past thirty years in oral teaching and as the medium of intercommunication between natives of widely distant islands, and has thus obtained, as the *lingua franca* of the Melanesian Mission, an importance which makes it, as a representative Melanesian language, second only to that of Fiji. The dictionary is prefaced by a succinct grammar of the language, and by some remarks on the general relationship of the Mota to other Oceanic languages. These point to the fact of very many agreements in the vocabularies from widely separated islands, and are justified by placing in the vocabulary after the Mota words, the cognates in the principal Indonesian, Micronesian and Polynesian tongues, which serve as illustrations of the general connection of the Mota language with the others. These illustrations are found among all classes of words, and in words of common and rare use. The statement sometimes made that correspondences between the Malayan languages and those of the Eastern Islands are limited to a few modern words could easily be refuted by this dictionary alone. Take, for example, the following Mota words:

Wirita, octopus; *ura*, crayfish; *ulo*, maggot; *tano*, ground; *sala*, path; *tun*, roast; *tani* (tangi), weep; *mate*, die; which are found throughout the Malayan Archipelago, and even appear in Malagasy as *horita*, *orana*, *olitra*, *tany*, *lalana*, *lono*, *tany* and *maty*.¹

Compare also the same words in the following notices of New Guinea, and in Samoan. These cannot be regarded as modern words, and yet the list might be considerably extended so as to form a large vocabulary.

¹ In these Malagasy words *o* is pronounced as *u*, and *na*, *tra*, in *orana*, *olitra*, *lalana* are separable suffixes.

In some cases the Mota dictionary gives information of ethnographical interest, by describing a native operation in detail. As an illustration I take the entry under the word *aka*, which appears thus:—

Aka, canoe; *aka paspasau*, with plank sides. Fiji, *waqa*; Mao. *waka*; Sam. *va'a*; Bouru, *waga, waa*; Amboyna, *hake*; Ponape, *wa*. A canoe is hewn out, *we tara o aka*; in shaping the hull, *turiai*, the tree trunk is cut with sideway strokes, *ari*, on the outside, and hollowed inside with straight strokes, *pari*. The two ends are shaped alike, the hollow part under the bows or stern being the *qanganai*; the upper part of each end being decked with a *tagava*. Upon the hull is built, *pasau*, the bulwarks of plank; *irav, me tara mun o lakae, we wacwas lue mun o nurnuriaka*, shaped (in old times) with the shell adze and bored at the edge with a shell; these holes in the planks and trunk are *matewas*, and *we ril o irav ape turiai mun o gawn ape matewas*, a lashing of sinnet passes through them. A staging of rods of hibiscus covers the two ends upon the bulwarks, *we las o qeagea varu*. At the two extremities of the hull double horns, *tikatasa*, of *gasur*, are made fast, to work the steering paddle, *turwooe*, in, which is tied in place with the *ga-ta-wose*. The outrigger, *suma*, is connected with the canoe by three yokes, *iwatia*, the ends of which are made fast, *ril*, to pegs, of nira wood, the *piscatoto*, driven into the outrigger. The free ends of the two outer yokes, *iwatia mot*, pass under the stages, *qeagea*, and are made fast to the bulwarks, *we ril ape irav*; the free end of the middle yoke is not tied fast, *we risa gap*. The outrigger is thought always to be on the left of the canoe, the open side of which is the *gatae*; the outrigger has its corresponding *gatae*.

The sail, *epa*, is carried by two spars; the longer the mast, *turgae*, the shorter the boom, *pane*; these altogether make the *gapon*. The forked butt, *kere turgae*, of the mast rests on the middle yoke, *iwatia*, is not made fast, *we pute gap gate rot*; the forked butt of the boom, *kere pane*, lies in the same way on the *kere turgae*. The mast is supported by shrouds, *tal*, made fast to the middle of the mast; three brought down to the end of the middle *iwatia*, carried under and wound to the *piscatoto*, and three to the base of each outer *iwatia mot*; these are the *tan-gae*. The boom is set to the open side of the canoe, *o pane te risa ape gatae*, leaning over; it is supported by two *tal-pane*, each fastened to the *iwatia mot* where it projects from the *irav*.

The sail, *epa*, is made of mats woven by women, *me van mun garine gae*, and sewn together by men with a needle of tree fern wood, or a ray's sting, and hibiscus fibre, *o*

merata we *susur* *mun* o *gazaru*, *mun* o *gatie*, o *gasai* *apena*, *si* o *togo* *var*. It is laced, *ritata*, to the *turgas* and *pans* with a small line; all is hoisted together, we *tape* o *epa*, and when not in use is folded with the lines attached. The leech of the sail above is the *gat-mala-lava*, the belly the *toqai*, the part in the angle below the *keretovoi*.

Similar descriptions are given of house building, thatching, etc.

2. "Grammar and Vocabulary of Language spoken by Motu Tribe (New Guinea)." By Rev. W. G. Lawes, D.D., F.R.G.S., with introduction by the Rev. George Pratt. Third and enlarged edition. Sydney, 1896. 8vo. pp. xiv and 157.

This very useful book shows a considerable increase in knowledge of the principal language of British New Guinea since the publication of the second edition in 1888. The grammar has been almost entirely rewritten and the vocabulary extended by the addition of more than a thousand words. An introduction by Rev. George Pratt points out many agreements with the Eastern Polynesian languages, but contains no reference whatever to the exceedingly close relationship between Motu and the Melanesian languages, which is strikingly evident in both the grammar and vocabulary. One short example may be given in illustration. The eight words given in the preceding notice as common to Malagasy and the Mota of Banks' Islands appear also in this New Guinea Vocabulary with the same meanings as: *urita*, *ura*, *uloulo*, *tano*, *dura*, *tunu*, *lāi*, and *mata*.

In the Polynesian language of Samoa, the same words are: *fe'e*, *ula*, *ilo*, 'ele'ele, *ala*, *tunu*, *tagi* (*tangi*), *mata*.

Mr. Lawes gives at the end of his book a comparative vocabulary of seven New Guinea dialects. In these the names Keapara and Galoma are adopted for the dialects formerly called Kerepunu and Aroma.

- An Introduction to the History of Religion. By F. B. Jevons, M.A., Litt.D. Methuen and Co., 1896. 443 pages. 8vo. Index.

This is an important contribution to the literature of the subject, approaching it as it does from a new point of view.

Starting from the position that wherever he gets it, the savage has a conception of the supernatural, Dr. Jevons combats the view that magic existed first and that religion was subsequently developed out of it. "Sympathetic Magic" is primitive science, not primitive religion.

The origin of religion is rather to be found in the desire of man to establish friendly relations with some of the supernatural powers which surround him. This desire seemed practicable because he was already in the habit of communicating with the

spirits of the departed, which, whether they possessed supernatural attributes or not, were at any rate spirits. Thus some ghosts at any rate were friendly to the living and loved by them. Religion is not based on dread or fear.

If it is argued that the corpse-taboo implies such universal dread of the ghost, the answer is of another nature altogether. The source of taboo is the conviction that "some things there are which must absolutely—and not on grounds of experience—be avoided. It is the categorical imperative, 'Thou shalt not,' which is the first form assumed by the sense of social and moral obligation." This is one of the points at which many anthropologists will join issue with Dr. Jevons. Mr. Andrew Lang has already done so. (Letter to the "Spectator," Jan. 23rd, 1896.)

The first supernatural alliances were primarily with animals, and secondly with trees and plants, human clans allying themselves publicly with animal and plant clans. This is Totemism. Attempts made by individuals to make private alliances, without the knowledge of the community, with unattached supernatural powers, were regarded as illicit and resented as unfair. Such alliances are the basis of Fetishism, which far from being the origin of religion is a degeneration of it. Dr. Jevons brings out very clearly what may be called the economic aspects of Totemism. It had a wide influence in the domestication of plants and animals. The breeding of cattle and the cultivation of cereals made man more dependent than heretofore on the forces of nature, and led him to worship them with the same ritual as that employed in the worship of his totems. Hence Nature-worship which, like Fetishism, is secondary not primary.

The formation of larger political units rendered possible by agriculture involved a fusion of cults leading either to Syncretism or Polytheism. In either case the resulting modifications in the tribal worship required explanation. The explanation took the form of myth, which is therefore not the invention of the priest.

The book concludes with an account of various doctrines of the future life, and of the origin of Monotheism, which is not developed out of Polytheism as is so often held. Whatever opinion may be formed as to the validity of some of Dr. Jevons' premises, and some at least will be called in question, there can be no two opinions as to the lucidity with which a long and intricate argument is rendered and exposed. Evidence of learning and scholarship is to be found in every chapter, and the author's wide knowledge of classical antiquity has enabled him everywhere to illustrate savage custom by parallels from the Greek and Roman world, thus ever keeping before the mind of the reader that continuity of human thought which has been so unwillingly recognised by classical scholars of a certain school.

Not the least important quality of this valuable book is its suggestiveness: it cannot fail to invite fruitful criticism and to stimulate to further research.

The Myths of the New World: A treatise on the symbolism and mythology of the Red Race of America. By Daniel G. Brinton, LL.D., etc., etc. 3rd edition, revised, 1896. Philadelphia. 345 pp. 8vo.

A new edition of Dr. Brinton's work first published in 1868, containing twelve chapters, with Index of Authorities and Index of Subjects. The chapters are arranged under the following headings:—General Considerations of the Red Race; The Idea of God; The Sacred Number, its origin and applications; The Symbols of the Bird and the Serpent; The Myths of Water, Fire, and the Thunderstorm; The Supreme Gods of the Red Race; The Myths of the Creation, Deluge, the Epochs of Nature, and the Last Day; The Origin of Man; The Soul and its Destiny; The Native Priesthood; The Influence of the Native Religions on the Moral and Social Life of the Race.

The Buddhist Praying-Wheel! A collection of material bearing upon the symbolism of the wheel and circular movements in Custom and Religious ritual. By William Simpson. 8vo, Macmillan. 1896. 303 pp.

This book is what its title implies, a collection of material: its aim is suggestion rather than formulated theory. But the industry and observation of the author have resulted in a highly interesting collection of facts gathered in various countries and dating from various epochs. The reader will gain some idea of the scope of the work from the titles of some of the nineteen chapters of which it is composed:—The Wheel among the Lamas; The Wheel in Indian Buddhism; The Wheel in the Brahmanic System; The Solar Origin; The Swastika; Japan; In Egypt; Among the Semites; The Greek System; In the Christian Churches; Among the Gauls, Teutons and the Celts; The Wheel of Fortune; The Wheel as an Amulet; The Wheel and Thunder. There are numerous illustrations, and the book is provided with a general index, and an index to book references.

British Association, Liverpool, 1896.

The Relation of Palæolithic Man to the Glacial Epoch.

REPORT of the Committee, consisting of Sir John Evans (Chairman), Miss E. Morse, Mr. Clement Reid (Secretary), Mr. E. P. Ridley, and Mr. H. N. Ridley, appointed to ascertain by excavation at Hoxne the relations of the Palæolithic Deposits to the Boulder Clay; and to the deposits with Arctic and Temperate plants. (Drawn up by the Secretary.)

This Committee was appointed "with the object of clearing up certain doubtful points as to the relation of Palæolithic man to the Glacial Epoch," at the Ipswich meeting of the British Association in 1895. Hoxne was selected as the best place for the investiga-

tion because "Palæolithic implements and various fossiliferous strata were there known to occur in close proximity to undisturbed Boulder Clay, and it was probable that a single excavation would be sufficient to decide several of the disputed questions."

Hoxne is on the northern border of Suffolk, in the midst of the great sheet of boulder clay, often styled "The Chalky Boulder Clay," which covers so large a proportion of the surface of Norfolk, Suffolk and Essex. It is now a century since John Frere recorded the occurrence of palæolithic implements there. Among more recent explorers have been Sir John Evans, the late Sir Joseph Prestwich, Thomas Belt, Mr. H. B. Woodward, Mr. Clement Reid and Mr. H. N. Ridley.

The Committee began work at Hoxne on March 23rd, 1896, Mr. Clement Reid remaining in charge throughout the investigation. A pit was sunk in the brickyard north of Fairstead Farm to a depth of 20 feet, and from the bottom of the pit a borehole was made 22 feet lower, when the Glacial Sands, underlying the boulder clay, were reached. It was then thought desirable to make a chain of borings right across the old basin containing the brickearth and other deposits seen in the brickyard, and extending for some distance outside its area. Sufficient evidence was thus obtained to enable the explorers to draw an accurate section across the ancient silted-up channel, and to ascertain its relations to the deposits belonging to the Glacial Period.

The trial pit and boring in the Hoxne brickyard was found to be nearly in the centre of the channel, and though the other borings frequently showed boulder clay, in none of them was there any other deposit not seen in Hoxne brickyard, where the explorers found, beginning with the uppermost beds:—

- A. Brickearth with freshwater shells, wood and palæolithic implements.
- B. Gravel and carbonaceous loam (no implements at this spot).
- C. Black loam with leaves of Arctic plants.
- D. Lignite with Temperate plants.
- E. Lacustrine clay with Temperate plants.
- G. Sand full of water.

The sand (G) is that of the Glacial Period which underlies the boulder clay. In other borings nearer the sides of the old channel, boulder clay was found at the bottom, and that deposit forms the surface bed outside the old channel.

Great care was taken to prevent the fossil remains found in beds C and D from being mixed. Samples from them were minutely examined and washed for fossils in London by Mr. Clement Reid and Miss E. Morse.

The Committee point out that the history of these palæolithic deposits seems to have been as follows. Long after the disappearance of the ice which deposited the boulder clay, the land was somewhat higher than at present, so that the old channel in which

these palæolithic deposits are now found could be excavated to a depth slightly greater than that of the Waveney, as it is at present. Then gradual subsidence turned this channel into a shallow freshwater lake. After the lake became silted up its site became overgrown by a Temperate flora. Then lacustrine conditions again prevailed, and a colder climate, resulting in the deposition of Bed C. Then followed the floods during which the palæolithic beds B and A were deposited. "The palæolithic deposits at Hoxne are therefore" (Mr. Reid remarks) "not only later than the latest boulder clay of East Anglia, but are separated from it by two climatic waves, with corresponding changes of the flora. Such sweeping changes cannot have been local; they must have affected wide areas."

The Report is well illustrated by a map and sections. The most important of the sections is along the line of the borings, twenty in number, the position of each being marked, and the old silted-up channel accurately shown in its relations with the boulder clay. There is a full list of the fossil remains found, and details of each of the twenty boreholes are given in an appendix. It is a most fortunate thing that the management of the exploration should have been given to a geologist with the great experience in field geology, especially that of the Eastern Counties, of Mr. Clement Reid. And the Committee, and Mr. Reid more especially, are to be heartily congratulated both on the thoroughly satisfactory way in which their work has been done, and on the clear and decided conclusions to be derived from it.

T. V. HOLMES.

It may be worth mentioning, in connection with this question of the relation of the palæolithic deposits of the Eastern Counties to the chalky Boulder Clay, that the present writer in a paper read before the Geological Society in 1892 ("Q.J.G.S.," vol. xlviii, p. 365), pointed out that a cutting on the new railway between Upminster and Romford showed the Boulder Clay to be older than the palæolithic deposits of the Thames Valley.—T. V. H.

The American Anthropologist. Vol. ix, Nos. 10-11. (No. 10.) "The Bûcan Ceremony of New South Wales" (illustrated), by R. H. Mathews; "Pueblo Indian Clans" (with Fable), by F. W. Hodge. (No. 11.) "Pacific Coast Shells, from Prehistoric Tusayan Pueblos" (illustrated), by J. W. Fewkes; "The Eskimo and their Written Language," by Chas. Hallock; "The Beginning of Marriage," by W. J. McGee.

The American Antiquarian. Vol. xviii, No. 6. "Manufacture of Abraded Stone Implements" (with Plate), by W. H. Holmes; "Mounts and Cists at St. Paul," by T. H. Lewis (illustrated); "A Remarkable Discovery of an ancient city in Mexico"; "From two Republics, Mexico"; "Garden Beds in Michigan Modeled," by H. E. Oaks; "King David's stone Stairway," by

T. F. Wright; "Symbols in the Carved Rocks on Mosquito Shore," by Wm. D. Farrington (illustrated); "When Patlatches are Observed," by James Deans; "A Choctaw Cemetery in Alabama," by H. S. Halbert; "Ancient and Modern Pueblo Architecture," by Steven D. Peet (illustrated); "Migrations of the Indian Tribes of the Atlantic Coast," by Dr. C. Thomas.

The Educational Review. Vol. x, No. 5. Contains among other articles—"The Proper Study of Mankind" (with illustrations), being a review of Prof. A. H. Keane's "Ethnology," in the Cambridge Geographical Series.

THE JOURNAL
OF THE
ANTHROPOLOGICAL INSTITUTE

OF
GREAT BRITAIN AND IRELAND.

JANUARY 12TH, 1897.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The following communications were read :—

"On the Transition from the use of Copper to that of Bronze." By Dr. J. H. GLADSTONE, F.R.S., and "On the Bronze of S.E. Europe." By J. L. MYRES, M.A., F.S.A.

Discussion was carried on by Messrs. EVANS, GOWLAND, MYRES, BALFOUR, and RUDLER.

On the TRANSITION from the use of COPPER to that of BRONZE.

By Dr. J. H. GLADSTONE, F.R.S.

THE following paper is substantially a communication made to the Anthropological Section of the British Association at Liverpool last September. The materials for it were founded upon the analyses of copper and bronze implements kindly given to me by Prof. Flinders Petrie, Mr. Bliss, Mr. Rylands, Mr. Arthur Evans, Mr. Joseph Offord, and Mr. Spiller, and of minerals and

ancient copper slags furnished by Prof. Bonney: also the analyses made by Dr. Percy, M. Berthelot, Prof. Roberts-Austen and others. Most of my results have been published in the "Proceedings of the Society of Biblical Archaeology."

The first metal employed by man to any extent was gold, which occurs native in many regions of the earth: but this seems to have been used mainly for ornamental purposes. Copper also sometimes occurs native, and many of its ores are easily reduced. There is no wonder, therefore, that it was employed in very early times, and in different countries, for the manufacture of implements designed for domestic, military, and other purposes.

We know from existing inscriptions that the copper and turquoise mines of the Sinaitic peninsula were taken possession of by Seneferu, a king who reigned as far back as the fourth dynasty, at the very beginning of authentic Egyptian history; and that these mines were worked to about the end of the nineteenth dynasty. Tools made of copper have been found in Medum and Gizeh, dating from the fourth to the sixth dynasty:¹ a curious object called Pepi's sceptre, now in the British Museum, and analysed by Berthelot, dates from the sixth dynasty.² A basketful of tools found by Flinders Petrie at Kahun, and dating from the twelfth dynasty, probably about *B.C.* 2500, were found also to be made of copper.³

In Mesopotamia a very ancient knife made of nearly pure copper, without tin, has been found at Tell el Sifr.

M. de Sarzec found at Tello, in Chaldæa, a votive figure, in the foundations of an edifice more ancient than constructions which are estimated at forty centuries *B.C.* Berthelot found it to be of copper deeply encrusted with oxide, and without any tin.⁴

As to Asia Minor, the lowest treasures found at Hisarlik, the supposed seat of Troy, comprise pins and nails made of copper, according to Prof. Roberts-Austen's analysis.⁵

More instructive still is the great mound of Tell-el-Hesi in Palestine, believed to be Lachish. In the lowest part of this mound were discovered adzes, knives, etc., of copper belonging to the time when it was an Amorite city, before its conquest by the Israelites under Joshua, and therefore in all probability before the nineteenth dynasty of Egypt, say about 1500 *B.C.*⁶

¹ "Proc. Biblical Archaeology," February, 1892.

² "Annales de Chimie et Physique." Série vi, 12, p. 129.

³ "Proc. Biblical Archaeology," March, 1890.

⁴ "Comptes Rendus," January 30, 1893.

⁵ "Ilios," Schliemann.

⁶ "Proc. Biblical Archaeology," February, 1894.

The "new race" whose remains were discovered by Flinders Petrie at Nagada, in Egypt, and who are supposed to be Lybians who invaded Egypt from the West, had a few metallic implements. The dagger, celt, and harpoon were examined, which proved to be of copper and not bronze.

But tools made of copper are not so hard as the flint implements which they gradually displaced; and we can well understand the desire of the ancient peoples to harden their tools and thus render them more serviceable. This seems to have been effected in three different ways.

1st. By admixture of the red oxide of copper, called by chemists cuprous oxide, or perhaps more correctly by the production of that substance in quantity during the smelting of the ore. Thus at Lachish some of the tools of the Amorite epoch were found to be excessively hard and red; an adze which was analysed giving about 24 per cent. of cuprous oxide. A similar adze obtained from a reliable source in Egypt, and ascribed to the eleventh dynasty, is found to be almost identical in its character and composition. The little harpoon from Nagada, and some other early implements also contain a considerable amount of cuprous oxide, but it is quite possible that this was rather accidental than intentional. That it was intentional in the case of the two adzes mentioned above, appears to me clear, not only from the large quantity of the oxide, but from the fact that other early copper or bronze implements which have been similarly buried in the soil are not found to contain any large proportion of it. We can readily imagine that early workers in copper might obtain a metal rich in suboxide through prolonged fusion in the air, as indeed is the case in what is now called "dry copper," a very hard and brittle substance. A very few per cent. of the suboxide of copper is sufficient to prevent copper being malleable; and it is quite certain that the specimens described above could not have been hammered into form. We know, however, that the ancient plan of preparing metal implements was by casting in moulds.

2nd. The presence of arsenic or antimony. The copper tools discovered at Kahun were found on analysis to contain arsenic; in one instance, that of a large hatchet, to the extent of 3.90 per cent. Dr. Percy found 2.29 per cent. in a knife which was certainly anterior to the time of Rameses II. M. Berthelot¹ has just described the composition of certain tools found in the deserted copper mines of the Sinaitic peninsula, and which may therefore be supposed to have been left behind when the mines were abandoned. One of these, a broken pick, was "fortement

¹ "Comptes Rendus," August, 1896.

arsénicale." Two needles and a pin found in the old necropolis of Tonkh, between Memphis and Abydos, contained some arsenic. M. Berthelot did not find arsenic in any of the Sinaitic minerals that he examined, and concludes that it must have been introduced into the metal on purpose. In other cases it may be quite possible that it existed in the ores employed. A very small percentage would be sufficient to give a harder metal than usual, and therefore a more serviceable one. Traces of antimony were also found in the ancient tools both of Egypt and Palestine.

3rd. The presence of a small quantity of tin. This metal, to the extent of 2·16 per cent., was found in a chisel from Kahun, and smaller quantities of it in the hatchet and knife. The mirror handle contained a decided amount of tin. Dr. Percy's knife, and the needles from Tonkh, also contained a trace. A knife dagger found in Cyprus, borings from which were given me by Mr. Arthur Evans, contained tin to an extent not exceeding one per cent. It is notable that the implements belonging to the Lybian race did not contain any amount of this metal. There can be little doubt that the admixture of tin was made for the purpose of hardening the copper, like the arsenic and antimony, and small as it is it would have an appreciable effect. That so little was employed in these very early days was probably due to its costliness. It is possible also that it existed originally in small quantities in some copper ores; which would in consequence be much sought after as producing a good hard metal. We can well understand that, especially in early times, tin would only be intentionally added to the copper where strength was required; thus at Mykenai the kettles and other domestic utensils were made simply of copper, while the swords, and such articles *de luxe* as a vase were made of good bronze. Similarly the nuraghs of Sardinia contain bronze statuettes on copper pedestals, and bronze swords with copper mountings.¹ Of course we are still in the habit of using copper or brass (alloy of copper and zinc) in place of bronze (copper and tin) where the cheaper metal will equally suit our purpose.

The great advantage of mixing tin with copper was gradually perceived, and the favourite metal for tools became that alloy which is known as bronze. This is very evident at Kahun. Among the implements found there, occur needles. Some of these were of copper, and therefore easily bent, and ill adapted to the purpose required; but others were found to contain a considerable amount of tin, and had the necessary hardness.

¹ Perrot and Chipiez, "*Historie de l'Art dans l'Antiquité*," vol. I. 7.

These are among the earliest examples of bronze.¹ A fragment of a graving tool from the Sinaitic mines was found to be very hard; and Berthelot describes it as a bronze very poor in tin and free from arsenic. The tools found by Mr. Petrie at Gurob, which date from the eighteenth dynasty, about 1200 B.C., also exhibit this transition. Two hatchets, the one small and the other large, gave respectively 6.67 and 7.29 per cent. of tin. Similar weak bronze was found in the third city of Hissarlik, in battleaxes and other implements. Analyses made by Damour, by Lyons, and by Roberts-Austen yielded from 3.84 to 8.64 per cent. In that portion of the mound of Lachish which belonged to the Israelitish period were found a quantity of nails and other articles of bronze, which were very much corroded, but gave a considerable percentage of tin. But, in fact, bronze containing about 9 to 10 per cent. of tin, much the same as our modern gunmetal, is to be found pretty well all over the civilised world, after, say, B.C. 1000, and was used for all kinds of purposes, until it in its turn was gradually displaced by iron and brass. The word translated "brass" in the Bible, may in some of the earliest records be applied to copper implements, but generally speaking it doubtless means "bronze"; this was used for the furniture and ornaments of the tabernacle, for armour and arms, for fetters, and for city gates; and there were even bows of bronze.²

When strength was not required, as in the case of statuettes, the bronze employed was much weaker in tin, but contained in its place lead, which was of course cheaper, and gave a more fusible alloy. Thus Meccant found in the bed of the Orontes some Hittite bronze figures of very archaic design, which contained 3.9 per cent. of lead and only 3.4 of tin. A bronze image found at Bubastis³ which I examined contained a fair amount of lead and a little tin: its date must be previous to B.C. 352, as the town was destroyed in that year.

We have no evidence in what form the tin was brought into the Levant; but that the Egyptians were acquainted with it in the metallic condition is proved by a finger ring of that metal which was found by Dr. Petrie at Gurob, dating from the latter part of the eighteenth dynasty.⁴ My attempt to find tin in the minerals and slags from the Sinaitic peninsula which were given me by Professor Bonney, gave a negative result.

¹ A far earlier example, if it be genuine, is a rod of bronze which Mr. Petrie obtained from a mastaba at Meidum, of the fourth dynasty, and which contains about the ordinary amount of tin of the later period. "*Proc. Biblical Archaeology*," February, 1892.

² See Revised Version, 2 Samuel xii., 35, Job xx, 24.

³ "*Proc. Biblical Archaeology*," March, 1890.

⁴ "*Illahun*," p. 19.

Our knowledge of early copper implements is still very meagre. Those of which the date is approximately known, and which have been analysed, are very few in number. Still I venture to think it is fairly established that the early civilized nations around the Mediterranean formed tools and weapons of copper in place of the wood and stone previously employed by them or their savage ancestors; that they found certain methods of treating the ores produced a red metal which was harder than that usually obtained, and that certain kinds of ores also furnished a stronger copper. Without understanding the cause of this, they would naturally adopt such plans as experience showed to be best, and would probably try admixture of other substances. Gradually they found that the addition of a certain black ore, or of the metal derived from it, produced an excellent result; and as the demand for bronze increased the trade in tin increased also. There must have been a large traffic in the metals, or perhaps in the implements themselves—the similarity in the shape of the tools in different countries rather favours the latter supposition. Thus nation after nation gradually passed from the use of copper to that of bronze.

APPENDIX.

This appendix is intended to give a fuller account of the analyses of the implements mentioned in the paper, with one or two additions. It is classified by countries, and, as far as possible, the different specimens from the same country are arranged in chronological order. I have not included any analysis of a specimen of copper or bronze that is not believed to be of earlier date than B.C. 1000. Except where the authority for the analysis is given, it is to be understood as having been made in my own laboratory.

EGYPT. *Nagada*. The Libyans: see text, p. 311.

Gizeh. Pyramid of Cheops. Walter Flight.

							Dagger handle.
Copper	..	..	..	..	..	..	99.52
Iron	..	..	..	..	..	..	.48

Medum. See p. 310, and note, p. 313.

				Adze No. 1.	Adze No. 2.	Bronze rod.
Copper	..	..	..	bulk	bulk	89.8
Arsenic	..	..	..	.38	.54	.5
Antimony	..	..	..	trace	trace	trace
Iron	..	..	..	"	"	"
Sulphur	..	..	..	"	"	"
Tin	..	..	..	none	none	9.1

"*Pepi's Sceptre*." Copper, without any tin or zinc, but containing a possible trace of lead. Berthelot.

Kahun. See pp. 310 and 312.

			Hatchet.	Round chisel.	Mirror handle.	Needle.
Copper	..	..	93.26	96.35	95.0	bulk
Arsenic	..	..	3.90	.36	{ more than trace	{ trace
Tin	..	..	.52	2.16	"	10.0
Antimony	..	..	.16	—	—	trace
Iron	..	..	.21	—	—	—

Knife under Statue of Rameses II, p. 311. Percy.

Copper	..	..	..	..	..	97.12	
Arsenic	..	..	..	..	..	2.29	
Tin	..	..	..	..	..	.24	(or possibly gold).
Iron	..	..	..	..	..	.43	

Thebes. Knife mentioned by Dr. Budge. "*Archæologia*," LIII, 83.

Copper	..	..	..	..	..	..	94.0
Tin	..	..	..	..	..	..	5.9
Iron	..	..	..	..	..	..	.1

Gurob. See p. 313.

				Small hatchet.	Large hatchet.
Copper	..	..	..	89.69	90.00
Tin	..	..	..	6.67	7.20
Arsenic	..	..	..	.95	.22
Antimony	..	..	..	trace	trace
Iron	..	..	..	.54	—

Sinaitic Mines. See p. 312. Berthelot.

				Broken pick.	Graver.	Needle.
Copper	..	..	..	bulk	bulk	bulk
Tin	..	..	..	none	little	none
Arsenic	..	..	..	much	none	little

Necropolis of Tonck. See p. 312. Berthelot.

Two needles and pin of copper with a little tin and arsenic.

CHALDEA. Tello. See p. 310. Berthelot.

							Votive figure.
Copper	..	..	..	..	..	..	77.7
Water	..	..	..	..	..	..	3.9
Oxygen	..	..	..	..	..	..	6.1
Chlorine	..	..	..	..	..	..	1.1
Silica	..	..	..	..	..	..	3.9
Traces of sulphur, arsenic, and lead, together with carbonate of lime, alumina, &c.							

Tell-el-Sifr. See p. 310.

							Knife.
Copper	..	..	..	..	..	..	98.6
Iron	..	..	..	..	..	..	.7
Sulphur	..	..	..	..	..	..	.2
Tin	..	..	..	..	..	..	none
Gold	..	..	..	..	..	..	doubtful

INDIA. *Gungeria.* Asiatic Society of Bengal. May, 1870.
Hatchets. Pure copper. Percy.

ORONTES. See text, p. 313.

PALESTINE. *Tell-el-Hesi.* See pp. 310 and 313.

Amorite period.

				Adze.	Knife.
Copper	..	..	..	94.9	97.0
Oxygen	..	..	..	2.7	some
Lead	..	..	..	.68	trace
Iron	..	..	..	.77	.15
Tin	..	..	..	doubtful	none
Antimony	..	..	..	"	trace

Israelite period.

Copper	..	..	..	..	..	63.4
Tin	..	..	..	..	..	7.5
Lead	..	..	..	..	..	none

CYPRUS. Congrès d'Anthropologie. Stockholm, 1874, p. 346.
Walter Flight.

			Knife.	Lance head.	Lance head.	Dagger blade.
Copper	..	..	97.22	98.39	99.47	88.77
Tin	..	..	trace	none	none	8.50
Iron	..	..	1.32	.72	.38	.47
Lead	..	..	.07	none	none	1.50
Arsenic	..	..	1.34	trace	trace	—
Gold	..	..	.27	.30	none	—
Nickel	..	..	none	.15	.08	trace
Cobalt	..	..	—	—	—	.30

Knife dagger. See text, p. 312.

HISSARLIK. See p. 310.

Lowest City. Roberts-Austen.

				Gilded knife blade.	Needle or pin.	Needle or pin.
Copper	..	..	..	97.4	97.83	98.20
Tin	..	..	..	none	.21	trace
Iron	..	..	..	—	.00	.75
Sulphur	..	..	..	—	—	.13

Second City. Of the same character.

Third City. Battle axes. Damour.

Copper	..	..	..	..	95.80	..	90.67
Tin	..	..	..	..	3.84	..	8.64

Battle axes. Roberts-Austen.

Copper	..	..	..	..	95.41	..	93.80
Tin	..	..	..	..	4.39	..	5.70

Sixth City. Battle axe. Damour.

Copper	..	..	..	..	..	..	93.32
Tin	..	..	..	..	..	..	7.59

MYKENAL. See text, p. 312. Dr. Percy.

				Kettle.	Sword.
Copper	..	..	..	98.47	80.36
Tin	..	..	..	.09	13.06
Lead	..	..	..	.16	.11
Iron	..	..	..	.03	.17
Nickel	..	..	..	.19	.15
Arsenic	..	..	..	.83	none
				with traces of bismuth, silver, and cobalt.	

SARDINIA. See text, p. 312.

P.S.—Since the above was read at the Society Berthelot has presented to the French Academy ("Comptes Rendus" of Feb. 15) an important communication on other metallic objects found at Tello. One is a colossal lance of red metal, much altered; the filings consist of copper without any perceptible tin, lead, zinc, arsenic or antimony. Another is an adze of the same composition. A third is a curved hatchet or adze of hard metal; it is of copper, without tin, lead or zinc, but with traces

of arsenic and phosphorus, to which M. Berthelot attributes its hardness.

Mr. GOWLAND considered Dr. Gladstone's paper to be a very valuable contribution to the early history of copper and bronze. Yet he thought that the evidence which had been adduced, although of considerable weight, was hardly sufficient to justify us in stating absolutely that a copper age preceded a bronze age in every country. The material of which the fighting weapons of a race was made was perhaps the most important factor in determining the character of an "age," yet in the paper we find no weapon of copper of earlier date than the knives of Tell-el-Hesi, whilst a hatchet and knife of the Kahun "find" (probably one thousand years earlier) both contained tin. Then of other objects a rod of bronze from Medum is as old as any object of copper.

The small proportion of tin in some of the early objects may be due, as suggested, to the scarcity and consequent costliness of the metal; on the other hand, the alloy may have been the direct result of smelting an oxidized copper ore containing tin ore (cassiterite). There are several examples at the present day of the production of alloys by smelting compound ores, as for instance in Hida, Japan, where an alloy of copper containing 10 per cent., and more of lead is obtained from a mixed ore of copper and lead; and in the Malay Peninsula, where an ore on smelting yields pewter (an alloy of tin and lead).

That copper was allowed to oxidize during melting with the intention of hardening it, is a point on which he differed from Dr. Gladstone, because there is a more natural explanation of the occurrence of excess of cuprous oxide. Besides, copper is not much hardened by its presence not nearly so much as by simply hammering the ordinary metal. He had found that 10 per cent. and Hampe 18 per cent., had not much hardening effect.

In all primitive furnaces—and he had had considerable experience with such in Japan—the copper obtained always contained an excess of cuprous oxide, and it is only when the metal contains an excess that it can be cast in a "closed" mould such as that required for a celt.

For these reasons excess of the oxide is found in all such castings.

He agreed with Dr. Gladstone that the arsenic which had been found in some copper implements was certainly not due to its intentional addition lent to the smelting of arsenical ores of copper, just as in the present day the copper from the South of Spain contains large quantities of arsenic.

Respecting the absence of arsenic and tin from the ores of

the Sinaitic Peninsula examined he thought that Dr. Gladstone would agree with him that the specimens analysed are yet too few in number to enable us to say definitely that these metals do not exist in that rather extensive mineral district. He desired further to point out how very necessary it was to exercise the greatest caution in drawing conclusions from a few analyses only, respecting the manner in which any ancient alloys had been made and the intentions of their makers. He had already cited examples of the direct production of alloys from ores, and would now adduce two cases of extreme variations in the composition of alloys due to the primitive processes employed in their manufacture.

In the old Korean mint where coins consisting of copper, lead, tin and a little zinc were being cast by very rude methods when he visited it, he had found that some coins contained 4·88 per cent., and others only 0·95 per cent., tin.

In one issue of old Japanese copper-lead-tin coins the average proportion of copper was 77·3 per cent., but when single coins were analysed it ranged from 69·8 to 86·3 per cent. He thought the paper was a most valuable one, although on one or two points his views differed somewhat from Dr. Gladstone's.

Mr. MYRES said that many of the early implements, though cast in an open mould, were certainly hammered to increase their density. Also that both in Cyprus frequently, and among the Libyan tombs at Ballas-Naqada, daggers, axes, and other offensive weapons, as well as domestic utensils and ornaments, were found of pure copper.

Mr. H. BALFOUR asked:—Is there any evidence in Europe of a stage in the early development of the metal age, at which raw copper was fashioned into implements by hammering and grinding alone, without being smelted? This stage is admirably represented in N. America, where nearly pure native copper was found in abundance on the shores of Lake Superior, and elsewhere, and was skilfully fashioned into implements by the natives without any smelting process, the metal being treated as though it were a kind of plastic stone by a people just emerging from their stone age. If we are to establish a continuity from the stone to the metal ages, some such stage seems to be necessary, as otherwise the jump from the ordinary methods applied to working stone into shape to the treatment of metals by *smelting*, is so wide a one that the continuity seems to break down. If evidence of this continuity is not forthcoming in Europe, whither must we look to find the traces of this important transitional period?

Dr. GLADSTONE thanked the audience for the cordial manner in which they had received his communication. There had no doubt been criticisms, as well as the addition of several interesting facts; but he did not think that any statement of his had been impugned, except when Mr. Gowland denied that the small quantity of cuprous oxide would make copper hard. This had been stated on the authority of Dr. Percy. There was no doubt that the adze found at Tell-el-Hesi, which was very rich in red oxide, was very hard indeed. Mr. Myres' observations on the hammering of celts which had been cast in a mould would warrant the addition of hammering as another means by which the ancients sought to harden their copper tools.

He did not think that the fact of no transition period between the use of stone and that of bronze being found in Japan and some other countries was any argument against the theory he supported. Some nations must necessarily be first in the discovery of the value of copper, and in the art of hardening it by tin; and when bronze tools became common, and the science of navigation advanced, they would naturally be carried as merchandize to other nations that had not yet advanced beyond the use of stone implements. Thus it is not likely that specimens of an intermediate stage would be found there. It appeared to him that the theory which explained the largest number of facts was that the ancient nations about the eastern part of the Mediterranean, Egypt, Chaldaea, Syria, Cyprus, Greece, Sardinia, did pass through a transitional period of the use of copper implements before the invention of bronze.

With reference to Mr. Rudler's request for the details of analyses, Dr. Gladstone was quite willing to add the figures, so far as he can, in an appendix.

THE KEEPARRA CEREMONY of INITIATION. By R. H. MATHÉWS, L.S., Corres. Memb. Anthropol. Inst. of Great Britain.

[WITH PLATE XXXII.]

THE tribes whose initiation ceremonies are treated of in this paper occupied a tract of country on the eastern coast of New South Wales, extending from about Newcastle almost to the Macleay River, comprising approximately the counties of Macquarie, Hawes, Gloucester, and the eastern half of the county of Durham. Several different dialects were spoken by the tribes who occupied the districts referred to, including the Watthungk, Molo, Birralee, Bahree, Kutthack, Minyowa,

Carapath, Goreenggai, and some others. Although this is one of the first portions of the colony settled upon by the English people, nothing has hitherto been done to obtain a comprehensive account of the initiation ceremonies of the native tribes who were originally spread over it.

The disappearance of the aborigines before the white race has been so rapid that unless steps be taken without delay to collect authentic records of their customs, it will soon become impossible to obtain any reliable information respecting them. The object of the present paper is to furnish a detailed description of the ceremonies of initiation as they were formerly carried out, and are still practised by a few remnants of the tribes within the districts mentioned. The information contained in the following pages is entirely new, and is now published for the first time.

The Main Camp and Keeparra Ground.—The last *Keeparra* held on the Manning River took place in the winter of 1889, on a part of the Australian Agricultural Company's Grant of 464,640 acres, in the county of Gloucester, New South Wales. The site chosen for the general encampment was a short distance from the right bank of Stony Creek, a small stream which flows north-easterly into the Manning River. This *Keeparra* ground is about three-quarters of a mile up Stony Creek, from the crossing-place over that creek of the public road from Tinonee to George Town. This road passes through the north-eastern corner of the Grant above mentioned, and crosses the Manning River about 30 chains above the confluence therewith of Charity Creek, which flows in on the northern side of the river.

The *Kackaroo*, or public ring, was 130 yards S. 50° E. from the right bank of Stony Creek on some level, thickly wooded country. The tribes who attended the ceremony camped around this ring, each tribe occupying the side nearest their own districts. Water for camp use was obtained from the creek referred to, and there were good hunting grounds all around.

The *kackaroo* consisted of an oval space 28 feet in the longest diameter by 23 feet across, bounded by a raised earthen embankment or wall, which was formerly about a foot high—the base of the wall being about 18 inches through. In one side of this embankment an opening, 3 feet wide, was left, from which a narrow pathway, *yuppang*, led away through the forest in a direction bearing S. 40° W. for a distance of 370 yards to another and larger oval enclosure, called the *goonambang* (excrement place). This space was 31 feet by 26 feet, and was enclosed by an earthen wall similar to the one near the camp, and the path entered it through an opening left in its wall in

the same way. The longest diameter of both these ovals was in the direction of the pathway connecting them, and the embankment was continued a few feet outwards along each side of the pathway in both cases. In the middle of the second, or larger, enclosed space was a heap of earth about 4 feet in diameter at the base, and 18 inches high, on top of which a fire had been kept burning. Plate, XXXII, Figs. 1 and 2.

There were no figures of men, animals, or other devices, formed by heaping up the loose earth, or by cutting an outline in the surface of the soil, contiguous to the path connecting the ovals, similar to those seen on the Bora and Burbung grounds of the Kamilaroi and Wiradthuri tribes, whose initiation ceremonies are described by me elsewhere.¹

A number of trees were marked around the *goonambang*, some of them being just outside the embankment, and others nearly two chains distant from it. The devices upon them consisted of the curious marking called *dharrook* or *dharroong* by the natives, and were cut upon the bark only. The trees selected were grey gum and spotted gum, the bark of which are smooth and soft, and well suited for the purpose. The *dharroong* extended from near the butts of the trees to an altitude varying from 6 feet to 22 feet up the bole or trunk. Most of the trees were marked all round the trunk, but some were ornamented only on the side facing the *goonambang*.

On an iron bark tree, the only one of that species marked on this Keeparra ground, was the representation of an iguana (Fig. 9), 4 feet 2 inches long, and 9 inches across the widest part of the body—the legs being about 5 inches in length, and were without claws. The head is turned to the left, as if the animal were looking about. This drawing was outlined in the bark by means of a nick cut with a tomahawk.

There were twenty other marked trees, all grey and spotted gums, seven of the most representative of which are shown in Figs. 6, 7, 8, 10 to 13, of Plate XXXII. The carving of the pattern shown in Fig. 13, covered 21 feet 8 inches of the bole of the tree, commencing at 3 or 4 inches from the ground, making a total height from the surface of the ground of about 22 feet. The marking shown in Figs. 6 and 10 extended up the trunks of the trees about 15 feet. The *dharrook* on all these trees was cut into the bark with a tomahawk, but did not extend to the wood.

It will perhaps be interesting to describe another keeparra ground visited by me, which is situated between three and four

¹ "Journ. Anthropol. Inst.," xxiv, 411-427; *op. cit.*, xiv, 295-339; "American Anthropologist," ix, 33-49; "Journ. Roy. Soc. N.S. Wales," xviii, 93-129; "Proc. Roy. Soc. Victoria," ix (N.S.), 137-173.

miles north-easterly from the village of Gresford, New South Wales. The main camp of the natives who were present at the ceremonies was pitched in an open forest, on some gently sloping ground a few chains easterly from the left bank of a small watercourse, a tributary of the Allyn River, within Portion No. 55, of 2,000 acres, in the parish of Lewinsbrook, county of Durham. The local Allyn River tribe were the first to erect their camp, around which the other tribes took up their positions, each in the direction of the country from which they had come.

Close to the eastern side of the general encampment was the *kaekaroo*, 40 feet by 29 feet, from which the *yuppang* or path led away on a bearing of N. 85° E., ascending some sloping ground for a distance of 17 chains to the *goonambang*, on the crest of a low ridge. The diameters of this oval space were 28 feet and 20 feet respectively, being smaller than the oval near the camp. The usual heap of earth on which the fire is kept burning was in the centre of this enclosure. There were formerly several marked trees, around the *goonambang*, but they have all been burnt down and destroyed by bush fires. At a distance of about 7 chains in a north-north-westerly direction from the *goonambang*, along the top of the ridge, were a few other marked trees, the *dharrroong* on some of which are still distinguishable. I copied these marks, but have not reproduced them in the present paper.

Mustering the Tribes.—When it is found that there are a sufficient number of boys old enough for initiation, the headman of the tribe whose turn it is to call the community together, who may be called the "Chief Initiator," sends out messengers to all the neighbouring tribes whom it is desired shall be present. The headman does not take this step on his own responsibility, but after due consultation with the elders of his tribe. When one of these messengers¹ arrives at the camp of the tribe he has been directed to summon, he sits down in sight of the men's quarters, and some of them go over to him, knowing by his manner that he is the bearer of news to their tribe. They would treat him hospitably, and talk with him about general matters of tribal interest. On the following morning he would accompany the men to the *weeng'garah'*, or meeting place where they assemble to discuss all such matters as they do not wish the women or uninitiated youths to take part in. On reaching the *weeng'garah*, which would be only a short distance from the camp, the messenger would tell the headman and elders the purport of his mission, and would

¹ The messenger generally has another man with him when engaged on this duty, to keep him company.

hand them a white quartz crystal which had been given to him by the chief initiator when dispatching him on this errand.

If these people, after deliberation among themselves, decide to accept the invitation, they give the messenger another white stone to be carried back to the headman who sent him. The latter, on receiving this token of their concurrence, then selects a suitable plan in some part of his own territory where game is sufficiently plentiful to afford food for his visitors, and there he commences to prepare the ground. If, on the contrary, the tribe to whom the white stone was sent consider the time inopportune, or that there are other weighty reasons for postponing the general gathering, no white stone is returned by the messenger, and the initiator then knows that they do not approve of his proposal, and the matter lapses for the present.

Assuming that the invitation has been accepted, the initiator immediately commences to prepare the keeparra ground, and dispatches another set of messengers, each of whom are on this occasion provided with a bull-roarer (*goonandhakeca*), several tails or kilts, a belt, and other articles. Each messenger on arriving at his destination would be received in the manner already described, and would hand the bull-roarer to the headman, who would take charge of it, and the tails would be distributed to the men to whom they had been sent. Nothing would be said to the women about these proceedings until the time arrived for making a start for the place of meeting. One of the men would then sound a bull-roarer just after dark in the vicinity of the camp, and next morning every one would pack up and proceed by easy stages towards the appointed tryst, dances and songs being indulged in at night at each of the stages along their route. At these camping places, one of the men swings the bull-roarer in the adjacent forest just after dark, and again a little before daylight, and the women reply to it by beating on their rugs, and singing; the men give a shout in unison.

When such a contingent gets within about a day's journey of the main camp, a messenger is sent on to report that they will arrive next day or the day following. When they get near the camp, the men, women and children sit down a short distance out of sight of the goonambang. The men then paint themselves with white stripes on their chests, on their arms, and on their legs from the knee down. When this painting is completed, two of the men go ahead by themselves, each of them carrying one or two boomerangs in his belt and one in his hand; in the other hand he carries a small bough ready for use by and bye.

The men belonging to the local tribe—and other mobs, if any, who have arrived previously—who may be called the "hosts," repair from the main camp to the goonambang and sit down within it, having their faces turned in the direction of the camp. When these two men get close to the goonambang they gently hit the boomerangs which they carry in their hands against those in their belts, and the hosts answer, *huk!* Then they advance a few paces, and stamp one foot on the ground, and the hosts answer *hek!* This beating of boomerangs and stamping is repeated till the men get quite close to the back of the goonambang. The two men now separate, one going round one side, and one round the other, and again meet at the entrance of the goonambang, where they stand and dance, shaking their boughs and boomerangs for a brief period. They then throw down the boughs, and go away back to their comrades, who have remained at the place where they painted themselves, and all of them now approach the goonambang, lightly tapping their boomerangs together as they walk along, and on arriving at the ring they form a circle round it.

The hosts now get up and go outside, where they remain standing in a group, and one or more of their number commence sounding the *goonandhakees* or bull-roarer. The women at the camp, on hearing this, assemble at the *kackaroo*, and begin to sing and beat their rugs, and some of them dance. The women belonging to the new mob also started from where they had been sitting down, as soon as their men started for the goonambang, and proceeded direct to the main camp, where they joined the women of the hosts.

As soon as the bull-roarers commenced to sound, the men of the new mob entered the goonambang, and walked round, and then started towards the *kackaroo* in a meandering line, in single file, carrying their boomerangs and other weapons with them. They were immediately followed by the hosts, each of whom carried green bushes in their hands. On arriving at the circle they walked once round it, and then entered it through the opening in its wall, the women at the same time going out of it by stepping over the embankment at the other end, where they remained as spectators. The men then dance and jump about in the ring, uttering guttural noises, the men of the new mob calling out the names of a few principal camping grounds in the country from which they have come. All the men and women then disperse into the camp, and the strangers commence erecting their quarters. These arrivals generally take place in the afternoon a few hours before sundown.

Daily Performances at the Main Camp.—Every day the men go out hunting, and meet each other in the evening an hour or

so before sundown at the goonambang. If some of the men have remained in the camp all day, they also will proceed to the goonambang and meet the others there. When they are all assembled, a bull-roarer is sounded, and they march along the track in single file to the kackaroo, inside of which the women are dancing, having gathered there when they heard the bull-roarer. The men then march once round the outside of the circle in the same manner as on the arrival of a tribe, already described. The women then step out of the ring, and stand a few yards from it, where they remain till the conclusion of the performance.

The men now enter the ring and dance round a few times, shouting out the names of remarkable places, after which all hands walk away to their respective camps.

A level patch of ground in a convenient part of the camp is cleared and made smooth for dancing on. Almost every evening one of the tribes present gets up a corroboree for the amusement of the others. The men of one tribe dance one evening—their women beating time for them; the next night the men and women of another tribe provide the evening's amusement.

Taking away the boys.—On the evening of the day preceeding the principal ceremony, all the tribes remove their camps close to the kackaroo, or public ring, where they remain for the night. Some of the men go to the goonambang and camp there, and during the night they swing a bull-roarer at intervals, and the women at the kackaroo beat their rugs and sing in response, whilst the men give the customary shout. At day-break the following morning a number of the men who have been camping with the women at the kackaroo proceed to the goonambang, tapping their boomerangs together as they walk, and join the other men who were there all night. All the men at the goonambang then start towards the kackaroo in single file, marching in a meandering course, and shouting as they go. On reaching the circle, they march once round the outside of it, and then enter it through the opening in the embankment, and continue marching round until all of them are within the ring. They now jump and dance, forming a group in the centre, after which they step out of it, and all the people go and have their breakfast.

After the morning meal has been disposed of, all the young men, accompanied by some of the old fellows, again start away to the goonambang, carrying their spears and other weapons with them, and commence painting their bodies jet black with powdered charcoal and grease. The chiefs and other old men remain with the women at the kackaroo, and preparations for

the ceremony are at once commenced. The relatives of the novices now take them to some convenient place adjacent, and paint them all over with red ochre and grease. Some sheets of bark are now laid on the ground just inside the boundary of the back part of the ring, or, in other words, on that side of it which is farthest from the pathway leading to the goonambang. Leaves are then thickly strewn on this bark, forming a kind of couch, and when the painting of the novices is completed, they are led into the ring and placed sitting down in a row on the couch of leaves—the novices belonging to each tribe being put in a group by themselves on that side of the ring which faces their own country. The headmen now ask the women to come up close, and the mother of each boy sits on the ground just outside the ring near her son¹; his sisters and relatives are a little farther off, and the other women and children outside of the last named. If the earth is damp, owing to recent rains, pieces of bark stripped from the adjacent trees, or heaps of bushes, are laid on the ground for the women to lie on. The mothers of the novices are painted with red and white stripes on the face, chest and arms.

The principal headman then walks along the row of novices, bending down the head of each one until his chin is resting on his breast. The women and children are also told to lie down, and are covered over with rugs and bushes, some of the men running round amongst them to see that this formality is properly carried out. As soon as the mothers are covered over, they are directed to continue making a low humming or buzzing sound, in order that they may not hear the guardians taking away the novices. While the covering is being placed over the women, a man runs away to the goonambang and tells the men there that everything is ready. These men, armed with their boomerangs and nulla-nullas, then start towards the kackaroo, some of them taking up their position on one side of the ring, and some on the other, but the majority of them stand near the front of it—that is, on the side from which the path emerges. The headmen are walking about directing the proceedings, being sometimes in the ring, and sometimes outside of it. All these operations are carried out as speedily as practicable, so as not to keep the women—some of whom have infants at their breasts—any longer under such rigorous concealment than is necessary.

The men who have been assigned as guardians to the novices now step forward, and catching them by the arm, help them to their feet, and lead them noiselessly away along the pathway

¹ If a boy's mother is dead, or too ill to be present, one of his mother's sisters takes her place at the ring.

towards the goonambang, their heads remaining bent down as they walk along. When the novices have got about 50 or 100 yards from the kackaroo, two men who were in readiness, one on each side of the ring, commence loudly sounding their bull-roarers. All the armed men who are standing round, make a noise by beating together two boomerangs, or any two weapons which they may happen to have with them. This noise is made so that if the string of one of the bull-roarers should break—which sometimes happens—the women would not hear it falling on the ground. One of the men goes into the ring, swinging his bull-roarer, and the other walks along one side near the women. This only lasts a few minutes and then all the men follow after the novices. While this tumultuous noise is going on, the guardians say to each other that they suppose Goign is killing all the women and children in the camp. This puts the novices in a great state of anxiety and alarm, but they are not allowed to speak or gaze about them.

The novices are conducted along the pathway to the goonambang, and are placed sitting down on a couch of small bushes and leaves which have been prepared for them, between the fire and the embankment bounding the ring, their guardians sitting down behind them in such a way that each boy may be said to be sitting in a man's lap. The boys of each tribe sit on the side of the ring nearest the country they have come from.

The Kweealbang Camp.—A short digression will now be made for the purpose of describing how the women are released from their prostrate position, and their subsequent proceedings. As soon as the guardians, novices, and the contingent who follow them are out of sight of the kackaroo, the covering is taken off the women by the men who have charge of them, and they are permitted to rise. First, the mothers of the boys are set free—then the sisters—and lastly, the other women and children are uncovered. The mothers and sisters of the novices generally give vent to tears and lamentations when they find the boys and all the men gone away; and such of the young girls and boys who have never been to a keeparra before, appear to have been very much scared by the strange ordeal through which they have just passed. They immediately pack up all their movables, and start away some distance to another locality which has been previously decided upon by the headmen of the several tribes, and there they erect a new camp, being assisted in this work by some of the old men who have been directed to remain with them. The usual rule of each tribe camping round the local mob, each in the direction of their respective districts, is observed in the erection of this new camp.

The mother of each novice, before leaving the kackaroo, picks some small green bushes, which she ties on the top end of her yamstick. When these leaves get dry, it will be considered about time to bring the boys back to the kweealbang. The sisters of the novices each pick up a piece of burning bark from a fire close by the ring, where they have been smouldering ready for use. These fire-brands, renewed as often as necessary, must be carried by them, when going from place to place, till they again meet their brothers at the kweealbang.

Before finally quitting the main camp, a small sapling is cut down, and one end of it inserted firmly in the ground at the kackaroo, in a slanting position, the elevated end pointing in the direction of the new camp. If it is intended to erect the camp only a little way off, the pole is short; but if the new camp is some distance away, the pole is long. The upper end of this pole is ornamented by having a bunch of green leaves or grass tied around it. This pointer is left for the purpose of guiding to the kweealbang camp any tribe which is expected, but has not yet arrived.

In the proximity of the new camp, on the side of it nearest the place to which the novices will be taken by the headmen, a piece of tolerably level ground is selected, and cleared of all timber and loose rubbish, and a large fire kindled in the middle of it. This cleared space and its adjuncts is called *kweealbang* (fire place, or place of the fire). Here the mothers and sisters of the novices assemble every day for the purpose of singing and dancing, and on these occasions the mothers carry the yamsticks, ornamented with bunches of leaves tied on their ends, already referred to.

Ceremonies in the Bush.—As before stated, the novices are taken to the *goonambang* (excrement place), where they remain till the women and children have departed from the other circle, which would occupy half an hour, or perhaps longer. During this time some old men perform feats of jugglery, and exhibit white stones (quartz crystals) to the novices. These stones are raked out of the heap of earth and ashes in the middle of the ring, and are warm, owing to the fire which is burning on top of the heap. These quartz crystals are believed to be the excrement of Goign.

The novices are then helped to their feet, and are taken to each of the marked trees in succession. The men stoop down, and clear away with their hands all leaves and rubbish from the surface of the ground around each tree, and the novices are brought to this clear space, with their heads bowed, and are told to look up at the marks on the tree. When it is thought that they have seen this sufficiently, they are requested to turn their

faces towards the ground as before. There is a cleared path from one marked tree to another, and the boys are taken along this path to the next tree, when the same formality of clearing a space around its base is gone through, and the boys are again directed to look up. When the men are approaching each tree they throw pieces of stick at it, and dance round it on the clear space referred to, rubbing their hands upon the tree and telling the boys to take particular notice of the marks upon it. The men make a guttural noise as the novices are shown each tree, and also in going from one tree to another.

After the novices have been shown the goonambang, and all the marked trees around it, they are next taken away by their guardians and the old men, several miles into the bush, to a camp called *keelaybang* (urinating place). During the journey thither the novices are not allowed to gaze about them, but have to keep their eyes cast upon the ground at their feet, and their hands held on their stomachs, as they walk along with their guardians. The headmen and young fellows who accompany them, are also a little way behind the novices, shouting and making a great noise as they march along.

At the *keelaybang* a camp is formed by erecting a long, continuous gunyah or mia-mia in the following manner. (Fig. 3, Plate XXXII.) A row of wooden forks, about 4 or 5 feet high, are first inserted in the ground, and saplings laid from fork to fork, resembling a fence with only one top rail. All along one side of this top rail, reaching from it to the ground, bark and bushes are placed in a slanting position, forming a shelter, covered in on one side, leaving the other side open. Under the open side leaves are thickly strewn on the ground, for the men and boys to lie upon. The back of this shelter is towards the women's camp. A row of fires are lit in front of this shelter, and beyond these fires the surface of the ground is cleared of all loose rubbish and grass for a distance of several yards, the rubbish forming a sort of embankment around the farther side of the cleared space. Such a camp would be formed on some tolerably level ground near a running stream or water-hole.

When the camp at the *keelaybang* has been completed the novices are placed lying down in a row on the leaves which have been spread on the ground under the shelter, and are covered over with rugs, each boy having his guardian beside him. The novices and guardians occupy a central position, and the rest of the men camp under the remainder of the shelter, in both directions. During the day-time the novices are sometimes allowed to sit up, keeping their eyes towards the ground, but are not allowed to speak to anyone. If a boy wants anything

he must touch his guardian, who then commences asking him the most likely things, until he guesses correctly, when the boy nods assent. If he wants to micturate, the guardian leads him out to the fire, and he micturates in the ashes.

On the first night of the arrival of the novices at the keelay-bang, some human excrement is given to them as they sit in the camp. It is laid on pieces of bark, and each boy has to eat the share which is allotted to him by the headmen. At this camp they are also required, on more than one occasion, to drink the urine of some of the men, collected in a coolamin for the purpose. During the celebration of these rites, a bull-roarer is sounded in the neighbouring forest.

At this camp there are pantomimic performances nearly every night, the men dancing and acting on the clear space already described. Sometimes the animal imitated is the kangaroo—the men hopping along one after the other. The iguana is also represented by the men crawling along on the ground, moving their hands and feet like that animal. At other times the soldier bird is imitated; sometimes the flying fox, the native bear, the rock wallaby, the wombat, and other animals. These performances are generally carried on at night by the light of the row of camp fires—the novices sitting in the shelter, while the men are acting on the other side of the fire. Some of the performances are, however, enacted during the day, after the men return from hunting. All these pantomimic representations are largely mixed with abominable and obscene gestures. After the dances and games are over, one of the men sometimes sounds a *goonandhakeea* (excrement-eater) in the bush near the camp. The guardians or some of the other men then shout out, as if addressing some one, "The boys are here yet! Don't interfere with them!" The novices are told that the noise they hear is the voice of Goigu, who would come and eat them if he got the chance.

During the early part of each day, the men go out hunting, and bring home the results of the chase, consisting of kangaroos, iguanas, birds, and other game, as well as wild honey. The novices are not allowed to leave the camp, but must sit in the shelter all day with their eyes cast down, some of their guardians remaining with them. Some of the game caught during the day is cooked for the novices, the bones and sinews being taken out of it, and the pieces cut small, so that they may not be able to distinguish what animal's flesh is being given to them. Some of the old men go round to see that the food for the novices is prepared according to rule, and when it is ready the guardians carry it to them.

One or more of the tribes who intended to be present may

have been unavoidably detained on the way, and do not reach the main camp until a few days after the novices have been taken away. Such a tribe, on reaching the main camping place, and finding all the people gone away, would go to the kackaroo, and on seeing the index pole would start away in that direction, and join the other people at the new camp, and take up their quarters on the side nearest their own country. The young fellows belonging to these new arrivals are always eager to be present and assist at the performances at the keelaybang, and accordingly they start out to the camp in the bush. On the way they paint their bodies with powdered charcoal, obtained by burning the bark of the apple tree or bloodwood, and mixing it with grease.

These men, who are called *keerang* (bushes), approach the keelaybang in single file, each man holding a green bush in front of him, which hides his face and body as far as the waist, and as they walk along they make a shrill sound resembling the howling of the *dingo*, or wild dog. On hearing this noise, the guardians and other men present say to each other, "That must be *Thoorkook's* dogs coming to kill the boys; let us cut steps in the trees near us so that the boys can climb up out of their way." A few of the men at the back of the keelaybang commence chopping at a tree, and the boys are helped to their feet, and are put standing in a row near the fires, each boy being supported by his guardian. By this time the *keerang* have reached the clear space at the keelaybang, where they throw down their bushes and spread out in a line in front of the novices, and jump about, swaying their arms, after which they retire to one end of the camp. The other men then go and pick up the bushes thrown down by the *keerang*, and pull the leaves off them, making a continuous grunting noise while so employed. The novices are then put back in their former places, and the *keerang* proceed to erect their quarters, by adding to one end of the same line of forks and bushes already described.

After the novices have been about a week at the keelaybang another mob of men from the women's camp make their appearance during the afternoon. They approach the camp in the same manner, carrying bushes and imitating the native dog, like the previous mob, and the novices are brought out to see them in the same way. The men at the camp pull the leaves off the boughs thrown down by the *keerang*, who sit down at one end of the clear space. After the formalities of their reception have been gone through, the new arrivals, who are not painted black on this occasion, ask some of the other men to accompany them a little way from the camp, where they

hold a consultation as to the date on which the novices will be taken to the kweealbang. If the course of performances in the bush have been completed, the boys may be returned next day, but if some further instruction is necessary, the date is arranged accordingly. The keerang then take their leave, and return to the kweealbang camp. After this visit of the keerang the novices are allowed greater liberty, being permitted to sit up straight in the camp, and occasionally to stand. Having been lying so long, and sitting with their heads bent down, makes them weak and giddy, so that when they try to stand they stagger like a drunken man, and have to be helped to their feet, as before stated, by their guardians. It is therefore necessary to give them a little relaxation to afford them an opportunity of regaining their strength before attempting the journey to the kweealbang. During the last night of the sojourn at the keelaybang the old men sing Goign's song while the boys are lying in the camp.

The day after the arrival of the Keerang—or it may be in a few days' time—very early in the morning, perhaps before sunrise, one of the headmen pretends to see a large brown squirrel going into a hole in a tree growing near the camp, and asks one of the men to catch it. The tail of a squirrel or opossum has previously been fastened on the side of this hole by one of the men, unknown to the boys, to convey the idea that the rest of the animal is within. The novices are then brought out and placed standing in a row between the camp and the fires, with their eyes cast down. A man standing at the butt of the tree commences to cut steps as if going to climb it, and a few of the men run about and throw sticks at the squirrel's tail. Others say, "You should not interfere with Goign's squirrel, or he will come and kill both us and the boys." Two bull-roarers are then heard close by, and some of the men call out to those throwing the sticks, "We told you to beware of Goign—here he comes!" This is said to impress the boys with supernatural terror. The bull-roarers increase in loudness, and come quite near, and the guardians tell the novices to raise their heads and look. They then see two men swinging each a *goonandhakeca* (excrement-eater) on the cleared space beyond the line of fires. The boys are then cautioned by the old men that if ever they tell the women or uninitiated that they have seen this instrument the penalty will be death. The bull-roarers are then given into the hands of the novices, who touch their bodies with them.

Return of the Boys.—A start is now made towards the women's camp, all the men and boys leaving the keelaybang in single file. Some distance on the way they hear the keerang

coming to meet them, cooeing like the dingo as before, and walking in the usual way. The men and boys then change their position, and all march abreast. When the keerang come near, they spread out in a row in front of the men and boys, and throw pieces of bark over them, dancing as they do so. These pieces of bark about 9 inches or a foot long, and 2 or 3 inches wide, are cut off trees or saplings for the purpose. The keerang then march right through the line of men and boys, some going through at one place and some at another, the line opening to let them pass. When they get to the rear, they turn round and again throw pieces of bark over the heads of the men and boys. The latter keep marching on, and the keerang follow them till they arrive at a water-hole or running stream, which has previously been agreed upon as a suitable bathing place. Here a halt is made, and the keerang start away back to the women's camp, and report that the men and boys will arrive in a few hours' time. The women then assemble at the kweealbang fire, and assist the men to cut bark and bushes, which are laid in a ring round the fire ready for use by and bye. The mothers are painted on the chest and arms, and are invested with their personal adornments.

The men and boys who remained at the water-hole or creek in the bush, as soon as the keerang left them, proceeded to wash the colouring matter off their bodies. They went into the water-hole one after the other, and came out in the same way. The novices entered the water first, and as each boy plunged in, the men standing around gave a shout. On coming out of the water-hole they paint their bodies white with pipe-clay, which is diluted in water in one or more *coolamins* which have been cut for the purpose. The men help each other at this work, until every man and boy present have been painted white all over their bodies. The hair on the heads of the novices is now singed, for the purpose of making the women believe that Goign has had them in the fire during their sojourn in the bush. The belt and four tails or kilts are now put upon each boy, as well as head-bands, and bands across the body like shoulder-belts. Strings are bound tightly round the upper arms of the novices to make their muscles swell, which is supposed to cause their arms to grow stronger. The men also decorate themselves in their full regalia.

The journey towards the kweealbang (fire place) is now resumed, all hands starting away from the water-hole in single file; and on going a short distance they are again met by the keerang, who salute them in the same manner as before, and then return to the kweealbang, and report that the novices will shortly arrive. The keerang and other men who have remained

in the camp then muster up all the women, and place them lying down round the fire, a little way outside the ring of bushes before referred to, the women of each tribe being kept in groups by themselves on the side next their own district, and are covered over with rugs and bushes. The mothers of the boys are on the outside, or farthest from the fire, which is composed of pieces of wood and bark, slowly burning within the circle of green bushes which are laid around it. If the ground is wet and cold, pieces of bark are spread upon it for the women to lie upon. As soon as they are covered over, the women keep up a humming noise the same as they did on the morning the novices were taken away from the kackaroo. A few of the old men remain standing near them, armed with spears, to see that the covering is not interfered with.

One of the keerang now goes and meets the men and novices—who may be distinguished as the “white mob”—who are by this time waiting just out of sight, and tells them that everything is ready. They then march on quickly, and on arriving at the kweenalbang they disband, the men and novices belonging to each tribe taking up their position on the side which is in the direction of their country. Their movements are made as noiselessly as possible, so that the women may not hear them coming. All of them then join hands, each man having hold of the hand of the man or boy on his right and on his left, having their faces toward the fire in the centre, and form a complete circle round the women. Fig. 4, Plate XXXII.

The rugs are now taken off the women, and the mothers are called up first, after which the other women are permitted to rise. Owing to the humming noise which they have themselves been making, and the quiet manner in which the men and boys have come in, such of the younger women who have not been to a *keeparra* before are surprised to see the cordons of “white men” standing around them. On account of the novices hair being singed short, and the white paint on their bodies, the mothers are sometimes unable to recognise their own sons. The old men who are in the ring with the women, therefore, conduct each mother to her son where he is standing holding the hand of the men on each side of him. His mother then approaches him, and holds her breast to his face, pretending to suckle him. The sisters of each boy then go up to him, and rub their feet on his ankles. The mothers then pass out under the arms of the men; then the sisters pass out, and lastly all the other women and the men who had charge of them in the ring, and stand close by as spectators of the remainder of the proceedings. The mothers and other women belonging to each tribe go out of the ring of “white men” on the side next their own country. The

pieces of burning bark which the sisters of the novices have been obliged to carry, as before stated, are left at the kweealbang.

Two old men, and two of the elder women, now go inside the ring of men and boys, and walk round—a man and a woman going one way, and the other man and woman going in the contrary direction. The men tap the ends of their boomerangs together as they walk, and the women wave their arms. The “white mob,” who are still holding each other's hands, swing their arms up and down as the men and women march round. Having gone round in this manner two or three times, the men and women come out, and the “white mob” keep closing in nearer and nearer the fire—the guardians and novices being in the centre. The bushes which had previously been laid round the fire are now thrown upon it. The novices are then lifted up in the men's arms, two or three men, including the guardian, to each boy, who advance and stand on the green bushes, which by this time are emitting a dense smoke, which ascends round the men and boys. As the neophytes are held up in the smoke, the men raise a guttural shout, and the women wave their arms up and down.

When the boys have been sufficiently smoked, their guardians take them away, and they are followed by the other men for about 100 yards. All the men, except the guardians, now return to the fire and stand on the green bushes in turn, until they have all been smoked. The keelang and other men who remained at the women's camp have been standing by as spectators, directing the proceedings all the time—the principal headmen being among them. When the fumigating of the men and novices has been completed the women go away to their camp, which is close by, and the men proceed to theirs—the married men joining their wives later on. In the meantime the novices, who are now called *keeparra*, have been taken a short distance from the main camp, where quarters are prepared for them, and their guardians remain with them.

The next morning the women proceed again to the kweealbang and light a fire. The mothers of the novices stand in a row facing the fire, the other women being behind them (Fig. 5, Plate XXXI). Each mother has her yamstick with her, and sticks it into the ground beside her, the top end of it being ornamented with the bunch of bushes which were fastened to it the morning the novices were taken away from the kackaroo. Nets are spread in a line upon the ground, and beside them are some coolamins containing water. When all is ready, some of the old men who are assisting the women give a signal, and the guardians and novices approach the kweealbang. The mothers

wave their yamsticks, and when the men and boys come near, the women shout, and throw pieces of bark over the men's heads. The guardians also throw pieces of bark over the heads of the women. The novices are placed sitting down on the nets, and bend forward and drink water out of the coolamins which are on the ground in front of them. Then the mothers go back to their own quarters, and the novices are taken by their guardians a short distance away, where they make a camp. That night a white stone is given to each neophyte by some of the old men; it is put into a small bag, and is fastened to the boy's girdle. The novices are also forbidden to eat certain kinds of food until relieved from this restriction by the old men.

Conclusion.—The following day, the strange tribes begin to disperse, and start away on their return journey to the districts from which they have come. The local tribe also shift away to another part of their own hunting grounds. Each tribe take their own novices away with them, and put them through the remaining stages of initiation in their own country. This is done in the following manner:—At the end of a certain time of probation, which is fixed by the headmen, the neophytes, painted and dressed as men of the tribe, are brought to a fire near the men's camp, where there is food ready laid on rugs spread upon the ground. All the women are there, and the novices sit down and eat the food which has been prepared for them. That night they camp in sight of the men's quarters, and each succeeding night they come a little closer, until at last they get right into the single men's camp. From the time the novices left the kweealbang until now they have been compelled to carry pieces of burning bark everywhere they went, but they are now released from carrying the firebrands any more. If any of the boys are very young, they may be required to carry a firestick till their hair grows as long as it was before being singed at the water-hole in the bush, as already described. This is said to be done to cause the novices' hands and arms to grow stronger. The novices are now given a new name, and are permitted to mix with the men, but must not go among the women until they have attended a few more keeparras, and have lost their boyish voice. After they have qualified themselves by passing through all the stages of probation attached to the initiation ceremonies of their tribe, the novices are allowed to take a wife from among those women whom the class laws permit them to marry.

In some parts of the tract of country to which the ceremonies herein described apply, one of the front incisor teeth was formerly extracted during the time the novices were away

at the keelaybang, but as this custom is not now enforced anywhere, I have not included it in this paper. From conversations which I have had with very old black fellows, there appear to be some grounds for supposing that the custom was not universally carried out in the districts referred to. I am now making further investigations into this matter, the results of which will be included in a subsequent paper.

Adjoining the north-west corner of the country peopled by the tribes dealt with in this article, is a small community occupying the Tableland of New England, whose initiation ceremonies have been described by me in a paper contributed to the Royal Society of Victoria.¹

APPENDIX.

The Dhalgai Ceremony.

A short or abridged form of initiation ceremony, called *Dhalgai*, is sometimes adopted by the same tribes who inhabit the tract of country dealt with in this paper. The *Dhalgai* is used only when there is no time, or it is otherwise inconvenient, to hold the complete ceremony of the *Keeparra*. If a tribe has a novice who is old enough to be initiated, and it will be some time yet before another keeparra will be held, it is sometimes thought desirable or politic to inaugurate him into the rank of manhood. No prepared ground is required, nor is it necessary that the neighbouring tribes should be summoned, as is imperative in the case of the keeparra, but each tribe initiate their own boys. The following is a brief outline of the *Dhalgai* ceremony:

The novice, *gooroomin*, is taken away some morning from the camp by three or four of the old men, under pretext of going out hunting, and they escort him to a place previously agreed upon among themselves. A number of the other men also start away from the camp in a different direction, so that neither the women nor the novice may suspect anything unusual. When this latter mob get out of sight of the camp, they change their course, and repair to the place which has been fixed upon for the initiation of the boy—probably some well-known water-hole.

The men who have the novice in charge are the first to reach the appointed locality, and when they get near the water-hole they sit down, and one of them goes on ahead, and lights a fire in a level, open piece of ground. This man then returns to where he left his comrades, and one of them, who is a brother-

¹ "The Burbung of the New England Tribes, N.S. Wales," "Proc. Roy. Soc. Victoria," ix (N.S.), 120-126.

in-law, actual or potential, of the novice, then bends his head upon his breast, and conducts him to the fire, and places him sitting down a little way from it.

The other detachment of men, who went away in a different direction, now approach, walking in single file, with a bush in each hand, held up in front of them so that their faces are not visible. These men, who are called *yillay*, are painted with white stripes on the face, chest and limbs. As they march along, they make a noise like the native dog, and on getting close to the boy, they throw pieces of stick over his head, which fall to the ground just beyond him. He is permitted to raise his head and look at them, and then cast his eyes on the ground as before. They then throw away their bushes, and, spreading out in front of the novice, stoop down and commence scraping the rubbish off the ground with their hands. They keep stepping backwards and scraping, until they have a small space cleared of all leaves and small sticks in front of the novice, who is still sitting on the ground with his head bowed.

The *yillay* then step into the space which they have thus cleared and commence to jump and dance, and the boy is told to look at them. One of their member then steps out in front of the rest on this cleared space and swings the *goonandhakeea*, and the novice is raised to his feet and is directed to look. The old men tell him the mysteries connected with the use of the instrument which he now sees before him. They then step up quite close to the novice in a menacing attitude, with their weapons in their hands, and threaten him that if ever he divulges what he has now seen, he will be killed, either by the hands of his own tribesmen, or by supernatural agency. After this ordeal is over, he is allowed to examine the sacred instrument.

All the men then sit down near the fire, the neophyte being amongst them. He is then painted as a man of the tribe, and invested with a complete set of man's attire, and the old men show him quartz crystals and give him advice as to his future conduct. The ceremony is now over, and on returning to the camp that afternoon, the novice remains in the men's quarters, and does not go back to his mother, or his small brothers, or sisters any more. He must, however, keep away from the women's quarters and abstain from eating certain kinds of food during a period to be determined by the headmen. At the next keeparra which is held in the community, the neophyte will be shown all the marked trees, and the secret ceremonies which are enacted at the *goonambang*, the *keelaybang*, and all the final proceedings at the women's camp.

A novice who has been admitted to the status of manhood by

means of the Dhalgai ceremony is called a Dhalgai man, in contradistinction to those who have been initiated at the Keeparra, who are always spoken of as Keeparra men.

Explanation of Plate XXXII.

A brief explanation of the Figures shown on the Plate will now be given—the reader being referred to the text for further details.

Fig. 1 is the *Kackaroo*, 28 feet by 23 feet: *a* is a group of two boys; *b* a group of four boys; *c* and *d* groups of three boys each. Outside the embankment are the mothers of the boys, and the other women farther back *a'*, *b'*, *c'*, *d'*, *e* and *f* are the men swinging the bull-roarers—one of them having entered the oval. The other men are not shown as it would unnecessarily crowd the Plate.

Fig. 2 represents the *Goonambang* (Excrement Place), 31 feet by 26 feet, with the heap of earth, *e*, in the centre. The four groups of boys, *a*, *b*, *c*, and *d*, are represented sitting between the heap and the embankment, but it has not been thought necessary to show the positions of the men—this having been sufficiently explained in the description of the keeparra ground. The track, *gappang*, leading from the *goonambang* to the *kackaroo*, is shown by a dotted line in this as well as in Fig. 1.

Fig. 3 represents the *Keelaybang* (Micturating Place), *a*, *b*, being the line of gunyaha or shelters, *c*, *c* the row of fires, and *d* the clear space where the men perform their plays and dances.

Fig. 4 is the *Kweelbang* (Fire Place), *g* is the fire in the centre, around which a heap of green bushes, *f*, are laid; *a*, *b*, *c*, *d*, are the mothers of the novices, and the other women, lying down, covered over with rugs and bushes; *e*, *e*, *e*, *e*, is the circle of men and boys painted white, and having their hands joined together; *h* is the way the men and novices have come in from the bush.

Figs. 6 to 13 represent the *dharrook* carved upon trees growing around the *goonambang*, which are fully described in previous pages.

Fig. 5 represents the place where the novices are brought in, and are given a drink of water; *a*, *a*, are the mothers standing in a row at the fire, *f*,—the other women, *g*, being behind them. On the other side of the fire is a row of coolamans, *b*, *b*, containing water: *c*, *c*, is the row of novices, and *d*, *d*, are the guardians; *e*, *e*, are the other men present; and *h* is the direction from which they have just come.

LIFE HISTORY of an AGHORI FAKIR; with *Exhibition of the Human Skull used by him as a Drinking Vessel, and Notes on the similar use of Skulls by other Races.* By HENRY BALFOUR, M.A.

[WITH PLATES XXXIII-XXXIV.]

BEING anxious to obtain for the Pitt Rivers Museum a specimen of the human calvaria used as a drinking vessel by Aghori Fakirs in India, I wrote to Surgeon Captain H. E. Drake Brockman, I.M.S., asking him to try and obtain one for me. This he not only succeeded in doing, having obtained

Fig 2

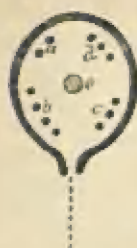


Fig 3

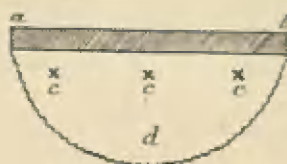


Fig 1

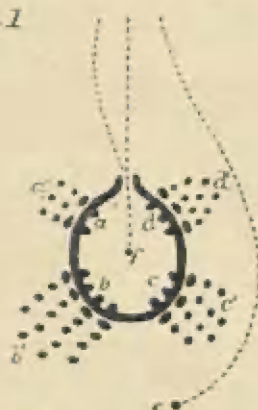
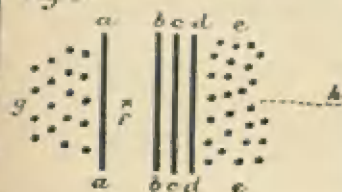


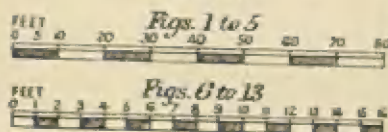
Fig 4



Fig 5



Scales



R.H. Mathews del.



the specimen which I am exhibiting, but he also very kindly obtained all the information which he could regarding the Aghori who owned and used this skull as his drinking bowl. As this information is of considerable interest, and as I am not aware that the individual history of an Aghori has before been published, I thought that it would be of interest to the members of the Institute if I were to bring these notes before them. The personal history of its former owner, lends interest to the skull bowl as a specimen, and any reliable information regarding the very peculiar sect of ascetics known as the Aghori must be of value, especially since it appears that their numbers are diminishing, and their unpleasantly peculiar customs seem likely to die out at no very remote period. The interests of culture demand the suppression of such aggressively ascetic doctrines, but the interests of anthropology demand that they should be thoroughly investigated and studied before it is too late.

On the general subject of the Aghori Fakir of India, Dr. Drake Brockman supplies the following notes:—

"The Aghori is a class of Hindu Fakir rarely seen now-a-days, and fast becoming extinct, who wander about the length and breadth of India, either singly or in pairs, and will often eat offal and filth of every description, including the flesh of dead animals, human and other excreta, and often human flesh when obtainable. As far as I can ascertain from inquiry from pundits and others at the sacred places, this class of Hindu Fakir takes its origin from the so-called Gorakpuri Fakirs, the originator of their sect being one Gorak Nath, at some remote date.

"The sect, as stated by the fakir Moti Nath, from whom the drinking vessel sent was obtained, appears to be sub-divided into three sections, viz.: 1, Oghar; 2, Sarbhunji; 3, Ghure. There appears to be little difference between these three sections, as they can eat together and intermarry, thereby violating the two most stringent conditions of caste etiquette. The members of this sect wear only ear-rings, no other adornment being allowed. They all appear to change their names when admitted into the sect, and take those allotted to them at the time of admission by the respective gurus, at whose hands they have been initiated into the sect.

"It is very difficult to obtain much reliable information concerning this sect of religious mendicants, partly from the fact that their numbers now are few, that they are scattered in twos and threes all over India, and that they are more or less looked down upon and despised by the people, who simply feed them at festivals as an ordinary act of charity.

"Their religious rites and beliefs are somewhat curious, in that, as regards admission to their fraternity, a member of any

religion or creed, be he Christian, Mussulman or Hindu, is eligible for admission to the sect, and the only thing necessary is that each must become a *chela* (disciple) of a *guru*, prior to their formal admission, for a period of six months at least.

"From inquiry of an intelligent pundit of Hurdwar, who, I have every reason to believe, is reliable, in that this place is one of the few resorts of this particular class of mendicants—it appears that the term Oghar is applied chiefly to those members of the sect who have previously been Mohammedans, but is not absolutely restricted. It also appears that the name of Oghar is derived from the founder of the section that goes by this name, a certain Oghar Nath. Members of this sect of Aghori Fakir do not appear to eat offal to the extent that the other two sects do, the Sarbhunji and Ghure; the habits of these latter are said to be of the filthiest possible description; they stick at nothing, and will eagerly devour human flesh, human or other excreta, and drink urine. One curious fact is that they can and will eat the flesh of any dead animal with one exception, that is the horse; the exact reason of this, which I have often tried to elicit from pundits, I have been unable to ascertain.¹

"Phakkars do not eat human flesh, and are probably looked up to by the other members of this sect, as being a bit better than themselves, partly from this reason, but also from the fact that they are celibate, or at any rate are not supposed to marry.

"While at Hurdwar recently, I was able to procure a stick used and carried by this fakir; it is cut from a tree known by the name of 'Tejphul,' a fairly common one, whose bark is covered with thorns something like the ordinary rose tree bark, only more pronounced in the way of being covered with thorns. I was told that two of these fakirs lived on the opposite side of the Ganges, in some caves in the hills surrounding Hurdwar, and that occasionally they could be seen wandering along the banks at dusk in search of offal, etc., but that on being approached they at once bolted into the jungle and could not be tracked. I tried to get some information concerning them and to procure their drinking vessels, but, I regret to say, without avail."

As Barth ("Religions of India," p. 214, 1892) says, "From the outset, and more than any other Hindu religion, Çivaism has pandered to ascetic fanaticism." The Aghori form perhaps the lowest grade of the Sivaite sects. From Watson and Kaye and others,² we learn that while formerly numerous, this sect of devotees has now dwindled down to a very few members, and

¹ Is this connected with the idea, prevalent in India, that the horse is a luck-bringing animal, and that it is unlucky to eat its flesh? Crooke (Introduction to "Popular Religion and Folklore of N. India," p. 318) says, "Eating horse flesh is supposed to bring on cramp, and when a sepoy at rifle practice misses the target, his comrades taunt him with having eaten the unlucky meat."—H. B.

² Watson and Kaye, "Peoples of India," II, pl. 24; E. Balfour, "Cyclopedia

that as an organised institution it is well-nigh extinct. Although there are doubtless many sincere devotees, the cult would seem largely to be maintained as a form of imposture, savouring of hypocritical charlatanism, "the object being to excite the wonder of the beholders, and make them believe in the utter indifference of the Aghora to worldly enjoyments. . . . They go about nude, with a fresh human skull in their hands, of which they had previously eaten the putrid flesh; and afterwards scraped out the brain and eyes with their fingers, into which is poured whatsoever is given them to drink, and to this they pretend to be indifferent whether it be ardent spirits or water. . . . The Aghora is an object of terror and disgust. Hindus, however, look on these wretches with veneration, and none dare to drive them from their doors" (E. Balfour, quoting Watson and Kaye). Wilkins says that "the original Aghori-worship seems to have been devoted to the female powers, or Devi, in one of her many forms, and to have demanded human victims."¹

The accounts of this sect which I have seen are very meagre,* and, in the scarcity of details concerning its votaries, the account of an individual Aghori, the owner of the skull-bowl exhibited, should prove of interest. I give the account as sent to me by Dr. Drake Brockman, who had it from the man's own lips. He says:

"The accompanying drinking vessel (Fig. 1), which on inspection will be seen to consist of the complete vault of a human skull, comprising the frontal, two parietal, and occipital bones, was obtained by me directly from one of these fakirs, after many months of search, and, in order to lend additional interest to it as an ethnological curiosity, I had the man's history taken down at the time, together with a few interesting points regarding this kind of ascetic, which were elicited from him by questioning. I will now proceed to give it in detail. He stated: 'My name was Kallu Singh, father's name Fateh Singh, caste Lohar (a of India'; Wilkins, "Modern Hinduism," 1887, p. 89; M. A. Sherring, "Hindu Tribes and Castes," 1872, p. 269.

¹ E. W. Hopkins, "Religions of India," 1896, p. 490, says: "Aghori and all female monsters naturally associate with Īva, who is their intellectual and moral counterpart. The older Aghoris exacted human sacrifice in honour of Devi, Parvati, the wife of Īva," and in a note on p. 533: "It is from this tribe [the Bhils] that the worship of Aghori, the Vindhya fiend, accepted as a form of Kali, was introduced into Īvaite worship."

The versatile consort of Śiva is known under a great variety of names and characters, Devi, Parvati, Durga, Kali, Uma, etc.

² The best account which I have seen is that by Mr. H. W. Barrow, "On Aghoria and Aghoripanthis," published in the "Journ. Anthropol. Soc. of Bombay," vol. iii, 1893, pp. 197-251, to which I was referred by Prof. Tylor. This account is exceedingly interesting, and gives numerous references to other literature. The description relating to initiation ceremonies is important. It appears from this paper that the Aghoripanthis should be regarded as modern degenerate representatives of the earlier Aghoris. The paper was compiled from MS Notes on the "Aghoris and Cannibalism in India," by the late Mr. Edward Tyrrell Leith.

worker in iron), by calling a *saigulyar* (meaning a polisher or burnisher), a resident in Patiala city (capital of a large native state in the Punjab), and my age is thirty years."

On being asked when and how he came into the sect in which he was, he replied, "My mother died when I was six months old, my father brought me up. When I was twelve years of age my father died. I had no next-of-kin, and then stayed in the city of Patiala for some time, and maintained myself by begging, but, when the people of my caste began to jeer at me, I left the place and came begging to Mauza (meaning a village) Shajjadpur Majra, which is in British territory, between Patiala and Umballa, and about 20 kos¹ from Patiala to the north. There my relations lived, but they would not keep me; then I departed from there, and came to a village, the name of which I have forgotten, about three kos from Mauza Shajjadpur Majra. In this village there were ten or twelve houses occupied by Oghar and Sarbhunji people.

"In this place one Oghar made me his *chela* (disciple), but first of all they inquired into my affairs, and I told them that I had no *varis* (next-of-kin), and I asked them to make me one of their sect; they then kept me with them. For six months I stayed with them in that place, and begged along with them, and supported myself. They had other disciples, and when six months had passed, the other disciples spoke on my behalf, and the other Oghars then made me one of their sect, it having been represented that I had been with them six months. The *Guru* (spiritual guide) then granted me *mantra* (spell or charm).

"After admission to their sect, I stayed with them for six years, after which, with their permission, I started on a pilgrimage to Badri Narain (this is a sacred shrine up in the hills above Hurdwar, at a considerable elevation, to which pious Hindus resort), *en route* to which I met many of my brotherhood, *i.e.*, Oghar and Sarbhunji mendicants, and in their company, after a month and a half arrived at the Badri Narain mountain. For some years I lived by begging at the foot of the mountain."

"There were no houses of my *biradari* (fraternity) there, and I met no one whom I knew. Thence I started off for Nepal, and in due time arrived in Nepal Kas city (meaning Khatmandu), where I stayed for six months. While there I received *sada bharat*² from the Rajah's palace. A good number of Oghars live

¹ The kos is a measure of distance varying considerably in different parts of the country, but usually measuring about two English miles.—(H. E. D. B.)

² This point is infested with fakirs and mendicants of all kinds, who wait to catch pious Hindus and charitably disposed persons going up, for money.—(H. E. D. B.)

³ This is a term applied to the custom of giving food daily as charity to the poor, which is largely done by wealthy Hindus, especially in large cities, *e.g.*, Muttra, where I have often witnessed this custom with my own eyes, and anyone

in Nepal territory, and I used to associate with them there. Thence I started on a pilgrimage to Juggarnathji (the sacred place of pilgrimage in Orissa), where I stayed for about eight or ten years. I met only a few Oghars there. Thence I started on a pilgrimage to Mathura, after which I came on to Bhurtpore" (a native state in Rajputana, where I got hold of the man. H. E. D. B.), "where I have been staying the last fifteen days.

"My *guru's* name is Hira Nath, and when I was admitted into this sect, he granted me the name of Moti Nath, by which name I am always known, and now I am an Oghar. I now receive food from every caste and tribe, and have no caste prejudices, I can eat from everyone's hand. I do not myself eat human flesh, but some of my sect have the power to eat human flesh and then make it alive again; some have success with charms, and they eat the flesh of the human body, but I have not this power as I was not successful with the charms. This much I do, I eat and drink out of a human skull. I also eat the flesh of every dead animal, with the exception of the horse, which we are forbidden to devour; all my brotherhood eat the bodies of all dead animals but the horse; this sect also eats the food of every caste or tribe, and has no caste prejudices whatever.

"There are three branches of my sect, 1, Oghar; 2, Sarbhunji; 3, Ghure. These all eat together and can marry with each other; those of our sect have families, but some of them are *Phakkars* (bachelors). *Phakkars* do not marry at all. We three sects can eat with *mehtars* (sweeper caste), but never intermarry with them. The three sects mentioned intermarry with each other, but not outside. We respect *Phakkars*, and put great faith in them. *Phakkars* are allowed to celebrate marriages.

"For the marriage rites,—first, the day of the wedding is fixed, and then on the appointed day the *Guru*, assisted by a *Phakkar* (if available), reads some charms and incantations before the bride and bridegroom, and then the marriage becomes complete; no other ceremonies are performed. Then the father or guardian of the bride gives the bridegroom some cloth, a dead human skull, and a rod." (This is a piece of rough stick, taken from a tree fairly common out here, called "tejphul," the bark of which is covered with blunt thorns. I have obtained a specimen of it, one that has been the property of one of these ascetics. H. E. D. B.) "We can have admitted to our sect anyone from any caste or religion, whether Mohammedan, Hindu or Christian, high or low. When he, or she, joins our sect, and wishes to marry, he can do so into either of the three sects of our fraternity. In our sect family men can also make disciples. We believe in God and our *Guru*, but in no other deities; we can see at the door of a rich Raja's house food being distributed to the poor, irrespective of caste and creed.—(H. E. D. B.)

all believe alike. My *guru* has not the power of making a dead human body alive after he has eaten it up, but my *guru's guru* had that power, he could do many other miracles. I personally never saw him, but have only heard of him."

That then is the account which this Aghori gave of himself and his sect, a description having many points of interest. In the case of such an outcast, one may say out-caste, people it is a matter of great difficulty to hold communication with any of them, with the view of learning about their habits and history, as they studiously avoid contact with those not of their own persuasion, except for the purpose of soliciting alms from the charitably disposed, or of extorting them by threats of horrible practices. A belief in the strict fundamental equality of all things, which is the basis of their creed, leads to a life of utter self-abasement and great austerity, with the view of winning the favour of Śiva. No doubt, as in the case of Kallu Singh, many, perhaps most, are brought into contact with this casteless sect, and become enrolled as members, by force of circumstances, as a *dernier resort* rather, than from any original desire to place themselves in the lowest ranks of society, and the sect may be regarded, to a great extent, as a refuge for the destitute and the unsuccessful in life; but in the days when its numbers were large and its doctrines more wide-spread, there may have been many who preferred, upon strictly religious grounds, to lead the life of rigid asceticism, imposed by this mendicant sect, with the prospect of a rich reward in the hereafter. The present fanatical ascetics have probably been evolved by a process of gradual degradation from the earlier and more philosophical worshippers of Śiva.

The drinking vessel of human skull, which with the staff constitutes their whole property, seems to be universally carried and used by the Aghori, even by those who do not persist in the practice of eating human flesh, which is permitted by their tenets. F. B. Solvyns,¹ who restricts the term "*Agoury*" to an outcast class of women ("proscrite") says, "*J'en ai même connu une qui vivait avec un riche Européen, et qui avait adopté les usages et les manières du pays de celui-ci; mais elle ne buvait que dans une coupe faite d'un crâne humain, garnie en or, et montée sur un pied artistement travaillé.*" This was presumably an exceptional instance, and the gold mounting of the skull bowl of this reclaimed Aghori woman reminds one of the elaborately decorated skull vessels of the Mongolian Buddhists, rather than of the rough uncleansed skulls used by the ordinary Aghori wanderers. The skull bowl belonging to Moti Nath, which I exhibit, is characteristic in not being embellished in

¹ "*Les Hindous*," 1810, ii, Pl. IV.

any way, the mere vault of a human skull, not even trimmed and smoothed at the edges for convenience in use. (Fig. 1.)

Notes on the Use of Human Skulls as Drinking and Libation Vessels by Various Races.

In connection with the use made by Aghoris of human skulls for their drinking bowls, it is of interest to note, by way of comparison, instances of a similar custom amongst other races, and to give the reasons which dictate the custom, which is very widely spread.

In the case of the Aghori, the use of a skull for drinking from, originally referable to Devi-worship, is a part of their practice of self-abasement, and is associated with the cannibalistic habits permitted and encouraged by this sect of ascetics. Any human skull will answer the purpose, and it is in no way material that the former owner and wearer of the skull should have been when living in any way connected with the Aghori who appropriates it from the dead body. In this respect the Aghori and Aghorapanthi differ from other peoples who make use of skulls for these purposes, and form a class by themselves.¹ In all other instances (or nearly all) the position of the individual whose skull it was when living, to the user of the skull as a vessel, is a matter of importance, and in most cases actually dictates the custom.

The custom of making drinking cups of the skulls of slain enemies is a widespread one among the more primitive warlike races. It is associated, primarily at least, with the widely prevalent belief in the transference of the powers of the deceased to the living victor, who is, according to this doctrine, enabled to add the skill, prowess and courage of his dead enemy to his own. It would seem probable that most forms of cannibalism owe their origin to a basis of this doctrine, which finds expression in numerous methods of treating and using the bodies, or portions of them, of deceased foes, which need not be enumerated here. The doctrine itself is natural enough when regarded in the light of primitive philosophy.

Of the Nukahivans of the Marquesas it is said that "As soon as an adversary had bitten the dust, the lucky warrior cut off the head of the slain, opened the skull at the sutures, drank the blood and a part of the brain on the spot." (Featherman, "Oceano-Melanesians," p. 91.) Krusenstern ("Voy. Round World," 1803-6, p. 180), in describing the Nukahivans, tells

¹ We must associate with them the Śaivaite sect, or subdivision, of Kāpālika (or Pāsupata) of Southern India, said to have been founded by Saṅkarācārya, the "establisher of six forms of doctrine," who derive their name from their use of a human skull as a drinking vessel. Monier Williams, "Brahmanism and Hinduism," 1887, p. 94; Barth, "Religions of India," 1882, p. 214.

of "barbarous scenes that are enacted, particularly in times of war; the desperate rage with which they fall upon their victims; immediately tear off their head, and sip their blood out of the skull with the most disgusting greediness," and he adds in a note, "All the skulls which we purchased of them had a hole perforated through one end of them for this purpose." In this case the skulls do not appear to be kept for use as drinking vessels, which latter custom may be a later and improved derivative of the more rough and ready Marquisan method of treating enemies' skulls. Williams ("Fiji," p. 51), speaking of the manner in which the Fijians were wont to boast of their prospective deeds of valour on the eve of battle, says, "Under the excitement of the time, indiscreet men have been known to utter special threats against the leader of the enemy. Shouting his name, they declare their intention to cut out his tongue, eat his brains, and make a cup of his skull." That this latter threat was not always an empty one we may gather from the account given by John Jackson of a Fijian cannibalistic feasting ground, which he visited in 1840, and where he saw all the ceremonial observed by these natives in eating their enemies. In his description of the spot, where there stood a *bure kalou* (or temple of a god), he says, "On the table lay two skulls used for drinking angona, several more lying about on the floor.¹

A similar use of skulls in the Kingsmill Islands is mentioned by Angas.² He says, "Toddy is procured from the spathe of the cocoanut tree, and used as an intoxicant beverage at their feasts, where it is served in large wooden bowls, from which it is handed round in small cups formed of cocoanut shells, or in human skulls." Mr. Graham Balfour in a letter to myself mentioned having seen in Dec. 1894, at the Maniapa of Teriri at Apemama, Gilbert Islands, a number of skulls of executed criminals, suspended from a hanging platform in the centre of the house, one of them being decorated with chains of shell money, and mounted like one of the cocoanut shells used for drawing water from wells.

The use of an enemy's skull as a drinking vessel was in vogue amongst the Iroquois as evidenced in the addresses of Iroquois women to the shades of departed relatives, whose death they would avenge, which contained the most fiendish threats to the prisoners of war, who awaited torture and death. "Him will I burn, and put into the cauldron: Burning hatchets will soon be applied to his flesh . . . they will drink out of his skull."³ Molina ("Hist. de Chile," Madrid, 1795, ii, p.

¹ Erskine, "Islands of Western Pacific," 1853, p. 426.

² "Polynesia," 1866, p. 398.

³ Thos. Jefferys, "Hist. of French dominions in N. and S. America," 1763, p. 63.

80)¹ speaks of a similar custom among the Araucanians, who, after torturing their captives to death, made war flutes out of their bones, and used the skulls for drinking vessels.

In Western Africa the custom of preserving the skulls and lower jaws of slain enemies, or in many instances of inoffensive people murdered for the sake of their heads—is well known, and in some instances the skulls are turned into drinking vessels. Specimens of the latter are, however, rare in museums, though both the British and the Berlin Museums possess examples. The two examples in the British Museum (Figs. 2 and 3) are two simple calvariae, the lower portions of the skulls having been roughly broken away, leaving the edges uneven and practically untrimmed; they come from Ashanti, but have no details of information as regards their exact *provenance*, nor as regards their use. Probably they were used as vessels for containing drink offerings presented to the fetish figures. Dr. v. Luschan,² describing a specimen of skull drinking bowl from Upper Guinea, Togo country, says that the skull was first boiled in water to soften the flesh, which was then removed from the bones with a knife, and a well cleaned and neatly finished drinking cup formed from it. In Nkonya, in the Tshi-speaking country, offerings are made at Wurupong to the principal fetish Yia, to whom must be offered every year a new drinking bowl made from a human skull, for he does not care to drink from an ordinary calabash bowl. The bringer of such a bowl is highly thought of and respected. In this West African custom the skull is used purely for propitiation of the god, and not, as in the other cases mentioned, used for transferring the powers of a dead foe to the living victor.

In ancient times, as we learn from Herodotus, this treatment of the heads taken in war prevailed amongst the Scythians, who always drank off the blood of the first enemy killed, and who preserved the heads of their most hated enemies in the following manner. The skull was sawn off below the eyebrows and the calvaria was cleaned, and if the owner of the trophy was a poor man he covered it with leather on the outside, if he was a wealthy man he in addition to this lined it inside with gold; the bowl thus formed was then used as a drinking vessel. Not only were the heads of enemies so treated, but if a Scythian pleader won a suit against even a relative in the presence of the king, his right it was to kill him and make a drinking cup of his skull, so that similar rules applied to victory in the law court as in war.³ Strabo,⁴ c. B.C. 54—A.D. 24, also mentions the

¹ Quoted by J. G. Bourke, "9th Rep. Bureau of Ethnology," p. 489.

² "Verhandlungen d. Berliner Anthrop. Gesellschaft," May 27, 1893, p. 271.

³ Herodotus, "Hist.," iv, 65.

⁴ Lib. VII, cap. iii, ed. Müller and Dübner, 1853, p. 249.

ferocity of the Scythians towards strangers, whom they slew and eat, and whose skulls they made into drinking cups, on which account, he says, the Black Sea (Pontus) was called Axenus (the "Inhospitable"). Colonel Tod and others have sought to prove that the Rajputs, who came as a conquering race into India, were of Scythian origin, citing, in proof of this view, several customs common to both Rajputs and Scythians, amongst others, that of drinking blood out of an enemy's skull.¹

Livy,² in describing a successful expedition made by the Boii against the Romans, says, "A small number of the great force, who, making for the bridge over the river, were cut off, were captured, the bridge having been previously occupied by the enemy. There Postumius fell fighting with all his might against capture. The spoils of his body and the leader's head, which had been cut off, were carried by the Boii amid rejoicings to their most sacred temple. Then having cleansed the head, after their custom, they covered³ the bare skull (*calvam*) with gold. And this became a sacred vessel to them, from which they could offer libations on holy days, and this same became a drinking vessel for the priest and chief people of the temple." The Boii were a Celtic (Gaulish) people, who at an early date crossed the Alps and settled between the River Po and the Apennines, and who greatly harassed the Romans during the third century B.C. Another ancient people, said also to be of Celtic or as some say Teutonic origin, are credited by Ammianus Marcellinus with drinking blood from their enemies' skulls. These are the Scordisci, ancient inhabitants of Pannonia, of whom it is said, "*Hostiis captivorum Bellonae litant et Marti, humanumque sanguinem in ossibus capitum cavis bibunt avidius.*"

As another case in point we have the well known story of Alboin, who became King of the Lombards in 561 A.D. He was married to Rosmunda (as second wife), daughter of Cuni-mund, King of the Gepidæ. He slew his father-in-law with his own hand in a battle which nearly exterminated the Gepidæ, and in a fit of drunkenness sent to his wife a cup made from her father's skull, brutally inviting her to drink from it. This savage act led to his assassination on June 8, 573, by an agent of his wife, Rosmunda. The Scandinavian gods

¹ Blaratsky, "Caves and Jungles of Hindostan," 1892, p. 211. Tod, "Annals and Antiquities of Rajast'han" (Rajputana), i, p. 68. "The Rajput delights in blood, his offerings to the god of battle are sanguinary, blood and wine. The cup (cupra) of libation is the human skull. He loves them because they are emblematic of the god he worships; and he is taught to believe that *Har* loves them, who in war is represented with a skull to drink the foeman's blood."

² "Hist.," xxiii, 24 fin.

³ The text gives "*calaveræ*," but better sense is made by reading "*calavero*," and I have ventured to adopt this reading in my translation.

have been by some credited with drinking out of human skulls at their mythical banquets in Valhalla, but this is, I am informed by Prof. York Powell, due to a mistranslation, as no such statement is made in the original Saga.

Even nearer home and in our own day the practice of using a skull as a drinking bowl is barely extinct. Mitchell¹ mentions the belief still surviving in Britain, "that epilepsy may be cured by drinking water out of the skull of a suicide, or by tasting the blood of a murderer." He adds, "I have known epileptics so treated."² This notion is associated with a widespread belief in the efficacy of dead men's skulls and bones for cure of epilepsy and other disorders. Powder made from human skulls was much valued, and even moss found growing upon a skull was found to be most efficacious in stopping hæmorrhages.³

The practice of preserving the bones of deceased relatives, and carrying them about for a longer or shorter time, is probably associated with a kind of primitive philosophy nearly akin to that which dictates the similar practice applied to the bones of enemies. In the case of this treatment of enemies, revenge seems to be only a minor incentive to the practice, the primary motive being the desire to acquire a part of the acknowledged powers of the deceased foe, through the direct medium of portions of his person. It is as a rule only the most powerful and dreaded enemies who are considered worthy of such post-mortem treatment, which is therefore rather complimentary to the deceased than otherwise, as being an acknowledgment of the prowess and courage which were his characteristics during life. In the case of the preservation of portions of the bodies of deceased relatives, there is, no doubt, some notion of piety in the act, and also a desire to propitiate the spirits of the departed, which might otherwise become troublesome. But, associated with these ideas there probably is the doctrine of the transmission of the characteristics of the deceased to the surviving relatives, who by this means may inherit his good qualities and virtues.

Although the preservation of the skull, bones, and other portions of the body of lately deceased relatives, is a very widely diffused practice (*e.g.*, in the Andaman Islands, Society Islands, Siam and many other regions⁴)—the practice of making drinking vessels of their skulls is of very limited distribution.

¹ "The Past in the Present," 1880, p. 154.

² See also Roger's "Social Life in Scotland," iii, p. 225, where the custom of drinking from a suicide's skull is described from Caithness and the neighbourhood.

³ W. G. Black, "Folk Medicine," 1883, p. 96. Also Gomme, "Ethnology in Folklore."

⁴ v. Giglioli, "Ossa Umane portate come ricordo o per ornamento e usate come Utensile ed Armi." "Arch. per l'Antrop. e la Etnol.," xviii, 1888.

The custom is, however, well-known in South Australia. Angas,¹ in describing the burial customs of the natives of the Lower Murray River district, says: "The body is never buried with the head on, the skulls of the dead being taken away and used as drinking vessels by the relations of the deceased. Mooloo, the native whom I met near the junction of the lake, parted with his mother's skull for a small piece of tobacco!" He adds later, "If the body . . . should happen to belong to a warrior slain in fight . . . after the body has remained for several weeks on the platform, it is taken down and buried; the skull becoming the drinking cup of the nearest relative." The same author in another work² figures a skull drinking vessel used by natives about Lake Albert and along the Coorong river. He says, "They generally prefer the skulls of deceased parents or other near relations, to those of strangers." In reference to Plate XXXVI of the same work, which illustrates natives of the Coorong, he says, "The girl carried a human skull in her hand, it was her mother's skull, and from it she drank her daily draught of water." E. J. Eyre,³ quoting Mr. Meyer, says of the burial customs observed by natives of Encounter Bay, South Australia, "The corpse being placed in the tree, a fire is made underneath. . . . In this situation the body remains, unless removed by some hostile tribe, until the flesh is completely wasted away, after which the skull is taken by the nearest relative for a drinking cup."

All the South Australian skull drinking bowls of which I have seen figures, or specimens, have been, with one exception, made by cutting away the facial portion of the cranium, leaving the entire skull vault practically intact. The single exception to this rule is a specimen in the possession of Professor E. Giglioli, of Florence, which consists of the hinder portion of the calvaria, cut off vertically from bregma to occiput. The skull-cups are often furnished with cords for carrying them about, and where they are fractured or the sutures gape, the apertures are stopped with gum or "black boy," to which are sometimes affixed flat pieces of shell.⁴ This is seen in the specimens exhibited (Figs. 4 and 5.) It was also usual to place a wisp of grass inside the cavity of the skull to prevent the water from being spilled in carrying (Fig. 5). I have not seen it stated that the Australians use the skulls of enemies for a similar purpose.

Herodotus⁵ in his description of the Issædônes gives a passage which may possibly have reference to the custom of

¹ "Savage Life," 1847, i, pp. 94, 95.

² "South Australia," Plate XXVII, Fig. 25.

³ "Discoveries in Central Australia," p. 345.

⁴ *I*de Angas, "S. Australia," Plate XXVII, Fig. 25; Eyre, *l.c.*, Plate IV, Fig. 29; J. G. Wood, "Nat. Hist. Mus.," ii, p. 83.

⁵ "Hist.," iv, 26.

using the skulls of dead relatives as vessels. After describing how, when a man's father dies, all his relatives are summoned to a banquet at which the flesh of the dead man is solemnly eaten, he goes on to say, "τὴν δὲ κεφαλὴν αὐτοῦ ψιλώσαντες καὶ ἐκκαθήραντες, καταχρυσοῦσι καὶ ἔπειτα ὅτε ἀγάλματι χρέονται, θυσίας μεγάλας ἐπετείους ἐπιτελέοντες." i.e., "Having laid bare and cleansed the head, they overlay it with gold; and then they use it as a *sacred image*, performing grand yearly sacrifices (to it)." There has been some question as to the meaning of the word *ἄγαλμα*. Baehr translates it "sacred image," Schweighæuser "sacred ornament," while Larcher renders it "precious vessel." Although this latter rendering must be regarded as a somewhat free one, it has, nevertheless, the support of analogy. If we may, with Larcher, regard the Issēdōnes as making a vessel or bowl of the skull of a relative, and lining it with gold, this is exactly what, as we have seen, the Scythians practised with the skulls of their enemies. From the geographical position, too, of the Issēdōnes, in Central Asia, we might expect to find customs akin to those of modern central Asian Mongoloid peoples, and this use of skulls both of friends and enemies as drinking and libation bowls, often richly overlaid with gold, is one which is very familiar to all students of the practices of Mongolian Buddhism. I do not wish to press this reading of the passage, but merely to show that a comparative study of customs at any rate lends support to it.

I have reserved to the last for consideration the drinking and libation vessels made from human skulls used in Mongolian Buddhist ceremonial, because in several respects they present special features.

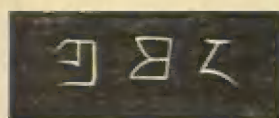
It is now some twenty-six years since the late Professor George Busk exhibited before the Ethnological Society an interesting calvaria from China,¹ one which was said to have been looted from the Summer Palace by one of Fane's cavalry. In a very interesting paper the skull was described, but its use was at that time a matter for conjecture, as nothing was certainly known. This calvaria, which I again exhibit (Fig 6), was formerly mounted in gold and set with jewels in a most elaborate and costly manner, and formed one of the most interesting exhibits in the Great Exhibition of 1862. I exhibit also a sketch of this calvaria as it appeared in its glory;² it then belonged to Mr. Tait. Somehow it came into the hands of a Jewish goldsmith in Houndsditch, who stripped it of its valuable gold mountings, leaving the

¹ "Journ. Ethn. Soc.," N.S., ii, 73-83, and Plate; also *ib.*, p. 156 (where it is suggested that the specimen may have been obtained from the Lama temple of Hih Sze).

² Waring, "Masterpieces of Industrial Art," iii, Plate 291.

bare skull-vault alone. It was obtained from him by a Dr. Millar, who gave it to Mr. Mummery. It later found its way to the Oxford University Museum, where it now belongs. I give this piece of history as I have been asked where this skull was now to be found, and I hope it has found a permanent home at last. The curious and interesting designs raised upon its surface have been described by Dr. Busk, and I need not dwell upon them. With this specimen I exhibit another also from Peking, which was sent to Professor Philipps for the Oxford Museum by General Gibbes Rigaud (Fig. 6). It was taken from a temple within the precincts of a great Lama Monastery at Peking. General Rigaud adds in a letter: "These cups out of which the priests of Buddha drink confusion to their enemies (this one was half full of samshoo, and probably a toast had shortly before been given to the 'fat-faced barbarian, the Earl of Elgin and Kincardine'), are made as far as I could learn either out of the skulls of rebels of the highest order, or those of priests of such holy

character as to obtain after death the title of 'Living Saints.' Whether this be the skull of a saint or a sinner, I must ask Dr. Rolleston to determine, to whose care I suppose it may go." This skull-cup is also



inscribed with a mystic Tibetan inscription, which has not been quite satisfactorily deciphered, but it appears to read *gra-thad*, with a possible play upon the word *gra*, which can mean an open dish and a foe (Col. Lewin). Such a punning inscription would apply admirably to many of the skull bowls which I have mentioned. This skull is mounted in very much the same manner as the other formerly was, but in a less costly manner, in gilt copper, surmounted on the cover with a *dorjé* or thunderbolt. Such skull vessels are now very familiar in museums, and their use in Lamaistic ceremonies has been described by several people; notably by Mr. Rockhill, who devotes a paper to the subject.¹ Several early writers on Tibet mention the making of drinking cups from the skulls of cherished relatives. William de Rubruquis (sent by Louis IX. of France to travel in the East in A.D. 1253) describes the Tibetans, "who had formerly a custom to eat the bodies of their deceased parents, that they might make no other sepulchre for them than their own bowels. But of late they have left off this custom, because thereby they became odious to all other nations; notwithstanding which, at this day, they make fine cups of the skulls of their parents, to this end, that when they drink out of them, they may in the midst of all their jollities and delights, call their dead parents to remembrance: this was told me by one that

¹ "Proc. Amer. Oriental Soc." Oct. 31, 1888, pp. xxiv-xxxi.

saw it."¹ This description reminds one of the Issēdōnes. Rockhill also quotes Friar Odoric, and Georgi ("Alphabetum Tibetanum") to a similar purpose in regard to the Tibetans. He adds, however, that "careful inquiry has failed to elicit any proof that Tibetans of the present day use the skulls of revered relatives as drinking vessels. A few ascetics, however, do make use of skulls as their eating bowls . . ." "At the present time, human skulls are used for two purposes: 1st, as an offering to Tsepamed (*Amitābha*), who is represented holding in his hands a skull filled with ambrosia, so as to call down on the giver the divine blessing in the form of worldly prosperity: and 2nd, as a receptacle for the wine or other liquid offered to the gods." Rockhill gives a translation of an exceedingly interesting, if quaint and amusing, MS. Manual in the possession of a Lama priest, on the "Method for distinguishing good and bad skulls, and how, by offering a kapāla (Skr. skull), to obtain worldly prosperity and create a wish-granting source." From it we may gather incidentally that the skull bowl (Fig. 6) described by Professor G. Busk was one of the very best kind, inasmuch as it has upon it the letter *a*, and other symbols.

Colonel Yule,² remarking on the great use made by certain classes of Lamas of human skulls for magical cups, and of human thigh bones for flutes and whistles, says that to supply them with these "the bodies of executed criminals were stored up at the disposal of the Lamas." Rockhill³ tells how at Bat'ang, after an uprising instigated by the Lamas in 1887, "The Lamas took from the grave the bones of Father Brieux, killed in 1881, filled their place with ordure, and made a drinking cup of his skull." The missionaries were of course regarded as *enemies* of society.

Legend ascribes the origin of the use of a human skull as a drinking vessel to the goddess Lhamo, who is a Tibetan form of Devi, the consort of Śiva. Waddell⁴ says that "Primitive Lāmaism may be defined as a priestly mixture of Sivaite mysticism, magic, and the Indo-Tibetan demonolatry, overlaid by a thin varnish of Mahāyāna Buddhism. And to the present day Lāmaism still retains this character." "Tantrism, which began about the seventh century A.D. to tinge Buddhism, is based on the worship of the Active Producing Principle (*Prakṛiti*), as manifested in the goddess Kali or Durga . . . from the tenth century Tantrism has formed a most essential part of Lāmaism" (p. 129).

The legend of Lhamo, as culled from the book "Paldan

¹ "Pinkerton's Voyages," vii, p. 54.

² "Marco Polo," i, p. 275 note.

³ "Land of the Lamas," 1891, p. 273.

⁴ "Buddhism in Tibet," p. 30.

Lhamoi Kang Shag," "to perform confession before the venerated Lhamo," a copy of which in Tibetan and Mongolian is in the library of St. Petersburg University, and as given by Emil Schlagintweit¹ runs thus :

"The goddess Lhamo was married to Shinje (the judge of the dead), the King of the Dudpos, who at the time of the marriage had assumed the form of the King of Ceylon. The goddess had made a vow, either to soften her husband's notoriously wild and wicked manners, and make him favourably disposed towards the religion of Buddhas, or, failing in her praise-worthy endeavours, to extirpate a royal race so hostile to his creed by killing the children that might issue from the marriage. Unfortunately it was beyond her power to effect an improvement in the evil ways of the king, and, accordingly, she determined to kill their son, who was greatly beloved by his father because in him he had hoped to put a complete end to Buddhism in Ceylon. During a temporary absence of the king, the goddess put her design in execution; she flayed her son alive, drank the blood from out his skull, and even ate his flesh. She then left the palace, and set out for her northern home, using her son's skin as a saddle for the king's best horse." This estimable champion of Buddhism is represented in Mongolian Buddhist art holding in one hand her son's skull from which she drank, and may be seen in the small images which I exhibit (Figs. 9, 10, and 11), and skull drinking-bowls with libations or food offerings are offered at the shrines of this goddess who upheld the religion. It is interesting to find in this legend an association of the use of skulls as drinking-bowls with the goddess Devi, when we recall the fact that the similar use of skulls by the degraded Śaivaite Aghoris is referred for its origin to a primitive Devi worship.

The Dragsheds, or gods who protect man against evil spirits, are represented in Tibet as holding a Kapāla or skull drinking cup in one hand, an emblem of that from which Lhamo drank her son's blood (Schlagintweit, p. 215). I exhibit also a skull-cup, roughly mounted with a brass rim, from Darjiling, brought home by Major R. C. Temple for the Oxford Museum (Fig. 8). Major Rennell states that he "has seen, brought from Bootan, skulls that were taken out of temples or places of worship; but it is not known whether the motive to their preservation was friendship or enmity. It might very probably be the former. They were formed into drinking bowls in the manner described by Herodotus, by cutting them off below the eyebrows; and they were neatly varnished all over.

¹ "Buddhism in Tibet," 1863, p. 112.





Description of the Figures.

- Fig. 1.—Drinking vessel made from a human calvaria, used by Moti Nath, an Aghori Fakir of the Oghar sect. Obtained by Surgeon Captain H. E. Drake Brockman, I.M.S., in Rajputana, and presented by him to the Oxford University Museum.
- Figs. 2 and 3.—Two drinking or libation vessels made from human calvariae, from Ashanti; British Museum.
- Fig. 4.—Drinking vessel made from the calvaria of a deceased relative; the sutures stopped with black gum and pieces of shell; South Australia; Pitt Rivers Collection.
- Fig. 5.—Similar skull drinking vessel with wisp of grass inside to prevent the water carried in it from being spilled; South Australia; Christ Church Collection, Oxford University Museum.
- Fig. 6.—Drinking or libation vessel made from a carefully polished human calvaria, with designs raised upon its outer surface, formerly mounted in gold and jewels. Described and figured by Dr. George Busk (*"Journ. Ethn. Soc.,"* N.S., ii, p. 73 and pl.); Oxford University Museum.
- Fig. 7.—Similar vessel, the calvaria lined with copper, and mounted upon a copper-gilt triangular stand, repoussé and chased, with cover of similar work surmounted by a dorjé or thunderbolt. From a temple within the precincts of the great Lama Monastery at Peking; presented to the Oxford University Museum by General Gibbes Rigaud, 1862.
- Fig. 8.—Lepcha priest's drinking cup made from a human calvaria rudely mounted with a brass rim set with a black pitch-like substance, Darjiling; presented to the Oxford University Museum by Major R. C. Temple, 1892.
- Fig. 9.—Baked-clay and painted figure of the goddess Lhamo, illustrating the legend of her escape from Ceylon. She is represented riding on her husband's horse, seated on the flayed skin of her son. In her right, lower hand, she holds his skull, from which she drank his blood; possibly Tibetan; Pitt Rivers Collection.
- Fig. 10.—Bronze figure of Kali, with necklace and apron of human skulls, holding in right, lower hand, a drinking cup made from a human calvaria; India; Pitt Rivers Collection.
- Fig. 11.—Carved ivory figure of Kali, holding in the left, lower hand, a drinking cup made from a human calvaria; Indian or Cingalese work; Pitt Rivers Collection.

ETHNOGRAPHICAL NOTES in NEW GEORGIA, SOLOMON ISLANDS.
By Lieutenant BOYLE T. SOMERVILLE, Royal Navy.

[WITH PLATES XXXV-XXXVII.]

DURING the latter halves of the years 1893-94, the officers of H.M. Surveying Ship "Penguin" were employed in making a survey of the hitherto little known island, or, more properly, group of islands, named New Georgia, in the Solomon Islands, South Pacific; and the following casual notes, made while camping in various parts in this locality during the progress of the work, may prove of interest. Wherever information is at second-hand it is expressly so stated; the remainder is all original personal observation. The various heads of information are taken in the order given in "Notes and Queries on Anthropology."

General.

The New Georgian Group is peopled by mixed races, exhibiting, facially, principally Negroid and Papuan affinities, but with a large range of characteristics from other parts of Oceania. There are two main languages in the group, Eastern and Western, which differ sometimes largely, and sometimes hardly at all; as a rule however, Easterns and Westerns understand each other's speech.

Their general demeanour is by most white people said to be "ferocious," and certainly they are inveterate head-hunters. Our officers, however, never experienced anything but civility, good temper, and occasionally kindness at their hands. The result of their custom of head-hunting has been to drive a certain proportion of "salt water" folk back into the interior, where the tropical density of the bush, and maze of tracks, ensure their safety. I have no doubt that this habit, continued from time immemorial, has given rise to an opinion (derived from contempt of a foe who hides, rather than fight for his head) that "man-bush" belongs to a different, and insignificant race. One short excursion that I made into the interior apprised me of the fact that that part of the group, anyway, instead of being very sparsely populated in a few villages on the coast, as generally supposed, is, on the contrary, fairly well inhabited in the interior slopes and valleys of the hills where, in quite a small radius, huts and clearings appeared on all sides in the midst of the bush; quite invisible, however, to a passing ship or canoe.

A slight general description of the topography may be of help while perusing the notes that follow.

New Georgia consists of a group of islands, closely adjoining, roughly occupying an east-south-east direction for about 80 miles, in the central southern portion of the Solomon Group. The largest island has no general native name. It has hitherto appeared in charts and travellers' books as Rubiana, Kusage, or Márovo. These, however, are only names of three of its districts, and we have, therefore, preferred in our survey—the first that has ever been undertaken—to call it Main Island, thus giving preference to no particular district.

Divided from Main Island by a passage a few hundred yards broad is, to the eastward, Vángunu, a vast extinct volcanic crater, rising about 4,000 feet above sea level, now entirely and densely wooded; which has a sort of peninsula attached to the northern end of it; a district known as Mbáriki. Eastward again, across a second passage, is the fine cone of Gátukai; and then, separated by a strait about one mile wide, is the small island of Mbulo, and the islet Kicha, which conclude the group to the eastward.

To the westward of Main Island is Wana wana, a low flat coral island, only separated by a very narrow channel, called Hathorn Sound, which closes in to the Diamond Narrows—a passage through which the tides, flooding and ebbing to the Rubiana lagoon, rush with great speed.

Westward of Wana wana is Gizo, or, probably, Kiso (Shark Island), also coral, of no great height.

To the north-west of Main Island is *Kulambangara* (King Frog), a splendid shattered crater, long extinct, and said to now contain a great lake of water, which rises almost abruptly over 4,000 feet from the sea, presenting at all times, and on all sides a peculiarly imposing and solemnly picturesque landscape of vast crater walls, precipitous gullies, and strong slopes, made even and soft-edged with dense ancient forest.

South of the west end of Main Island there are, first, Rendova Island (which has probably derived its name from *Rendezvous*, as, on account of a convenient harbour which exists on its northern side, it has long been a meeting place for men-of-war and other vessels), on the other side of the Blanche Channel; which has at the north end a fine volcanic cone about 3,000 feet high, tailing off into a knife-edged promontory to the south. It concludes at a narrow strait, on the other side of which is a long and hilly island, of volcanic origin, with a broken coral shore line, called Tetipari.

This completes the larger islands of the group. We now come to its most striking, and probably unique feature—its barrier islands and lagoons.

From Wana wana, following the southern shore of Main Island to the eastward for a distance of about 20 miles, there is a long chain of barrier reef and islands, which enclose the Rubiana Lagoon. On its inner beach is built the largest settlement in the group, a series of villages holding probably between 3,000 and 4,000 inhabitants, the chief of which gives its name to the lagoon.

The barrier ceases here for about 10 miles; but then, striking out again in a long coral tail, sweeps round in a series of islets and sunken reefs, enclosing the bay formed between Main Island and Vángunu, afterwards winding across the strait between Vángunu and Gátukai, in a second chain of islands. From Gátukai, the barrier strikes rectangularly northward, now in a much more remarkable form: for here the ancient barrier reef has been volcanically elevated two or three times—judging by the successive sea levels clearly marked on its exterior coral cliffs—and stands up, an impassable wall, 150 feet high, the top of which is densely wooded, and perfectly flat. At first this wall is double, but, after 5 or 6 miles, where it

sweeps round to the north-west, it becomes single again, and in that form follows the trend of the coast for 40 or 50 miles, at distances varying from a half, to two and three miles from the enclosed land. The whole of the lagoon thus formed is sprinkled with a myriad reef islets, flat-topped, wooded, and usually about 90 feet high.

Access to this enclosure is possible by narrow deep passages, which break the barrier wall every 4 or 5 miles, through which the tides swiftly run: and having entered by one of these, ships that have good turning-power may, in several places, find deep channels between the innumerable reefs that encumber the lagoon, leading up to the small native settlements on the main land. To look down upon the lagoon from the summit of any of the hills of the large islands is to have spread before one the strangest and most picturesque scene imaginable. The splendid luxuriant bush close round forms a foreground of the highest interest, edged at the water line by the white sand, or dark green mangroves of the coast, with perhaps a brown thatched native village standing among its coconut palms, and canoes plying about beyond on the calm water.

The middle distance is filled with the lagoon itself, dark blue in the deeps, pale blue in the shallows, light brown over the labyrinthine reefs—a feast of colour—set about with islands, islets, and rocks, in uncountable variety, each bearing a miniature forest. And there, bounding them in, the great green snake of the Tomba—the barrier island chain—unnatural pieces of bent land, 5 miles long, 200 yards wide, twisting this way and that, until the winding tail is lost round the last headland of the wild volcanic hills, in the sea mist of the surf, beaten to foam on its outer edge. Outside, the suddenly deep ocean, with its wave crests, and continual swell, carrying the eye back to the far horizon, where faintly shows the hilly outline of Ysabel Island.

This is the view from the sharp summit of Márovo, a hilly island only slightly detached from the coast in the eastern lagoon, which, as it was in old times the most populous and agreeable to trade at of any of the places near by, was a good deal visited by traders and others. From this early communication it has given its name (Márovo) to all New Georgia on the older charts. It was in the vicinity of this part of the group that I was encamped during three months of 1893 and five months of 1894, shifting from island to island in the lagoon, as I worked westward. It is, accordingly, the Eastern, or Márovo dialect that I understand best; and all the native words contained in this paper belong to it. This is unfortunate; as by far the most prosperous, populous part of New Georgia nowadays is the western part, the Rubiana district; and of this the

language and customs are no doubt—the language is certainly—a good deal different to the Eastern. Perhaps some day both may be rescued from the advancing oblivion of civilisation.

Clothing.

A small loin cloth, very similar to the Fijian *maro*, of a rough sort of *tappa*, coloured usually brownish red or dark blue, constitutes the sole clothing of the males. It is perfectly modest, and offers strong contrast to the grotesque fashions of the New Hebrides. Both boys and girls adopt costume at a very early age—I should say at about four or five, sometimes even earlier. The *tappa* is made of several sorts of bark; *kalela*, *berikoto*, being the two most usual. These two have a naturally reddish colour; another sort is white, and this one is often dyed entirely blue with wild indigo. This is chiefly done in Ysabel, the New Georgia women being said not to understand the colouring process. The method is similar to that in use elsewhere: the bark is dried, then soaked in water, and hammered with a mallet (*kimo kimo*). This mallet is of circular section, and is ribbed on the outside. Bark cloth is usually made by women, but men would make it if necessary.

In New Georgia, the man's wrapper (called *ndóngondóngona*) is often of trade calico, and fashion commands that it should be



NATIVE WEARING SUNSHADE.

of a material of a single colour—preferably blue. Patterns or stripes of bright colours are invariably spoken of as “woman’s calico.” Those who can afford it, bind additional strips of turkey red twill, with white and blue calico, over the hips in neat ornamental bands, surmounted by a string of large beads. A sunshade is commonly worn on the head; a sort of crownless cap, with a broad square-shaped “peak” made of basket work: but European hats, and, indeed garments of all sorts, are in great demand; though, with the exception of hats and shirts, seldom worn.

The women wear a loin cloth, similar in form to that of the men, but at the back it is padded out to form a large triangular cushion, apex downward, with an abrupt ledge 6 inches wide at the top, upon which mothers frequently carry their babies. This cushion is the receptacle of all the calico and other valuables to which they can lay claim.

Ornaments.

The most striking ornament in New Georgia is the large ear-ring. A piece is cut out of the lobe of the ear during early youth, and the ring of flesh thus formed is gradually increased in circumference by the insertion of a strip of banana-leaf which, wound like a watch spring, keeps the lobe perpetually distended. Eventually a circle of wood occupies the hole; or, as I have seen, a disc of ebony inlaid with mother-of-pearl, sometimes even a circular trade looking glass. The largest that I measured was 4 inches in diameter.

The women have the same custom; but I never saw one with so large a ring as the men wear. It is usually worn by the young unmarried of either sex; the elder married folk are only occasionally seen with it. The septum of the nose of the elder men is often bored, but the fashion of wearing an ornament in it has apparently died, as we never saw a nose ornament inserted in any case.

Nearly every man wears round his neck an ornament of pearl shell or clam shell of many and various patterns, quite irrespective of tribe, in which the frigate bird (*mbellema*), nearly always figures, with half moons, and circles with a curious fret-work pattern in the centre. These are usually *hope*, or amulets, and occasionally difficult to procure.

Ornamental combs are worn in the hair, but very rarely; and never that I saw, of careful make.

The hair is carefully looked after, especially in Rubiana, and trained to a shock of curls rigorously bleached with lime, which causes it to be of a colour varying between that of Manilla hemp, and ordinary rope yarn. The point of hair on the

temples, and the triangle terminating in the centre of the back of the neck, is shaved off (modernly) with European knives; but it is often still plucked out in the old method between two edges of a cockle shell. By these means the top of the head appears as if covered with a circular mat, and this idea carried to an extreme is seen also in their carvings of Manggota¹ or other "*debbleums*." A light circular framework, like the brim of a hat, is sometimes worn to support the lower edge of this shock of hair.

When in mourning, the hair is cropped close and whitened, and the face shaved to a small patch of hair on the chin; this is done at the funeral feast.

In the Russell Islands, a little cluster of islands of the south-east corner of New Georgia, white wigs of some cotton-like material are made, which are in use among the bald; or also, as it was explained to me, "all o' same hat."

The fashion in beards is curious, the hair being shaved or plucked out, leaving only a small tuft an inch or so long in the middle of the chin, supported by a narrow ridge of closely curling tufts, well limed, which follow the contour of the jaw-bone up to the ear.

Chief's Necklace.

Ingova, the king of Rubiana, wore an ornament round his neck, the sign of chieftdom, and a great "*hope*." He had a similar one made, and presented it to Mr. Kelly, a trader living near his place, as a token of his good will. He told him that his possessing it was an absolute safeguard on his life. I had the opportunity of closely examining Mr. Kelly's, which, though smaller, was a facsimile of that of Ingova. It consisted of a very carefully made ring called *éringi*, with a square section, about 4 inches in diameter, of a beautifully grained and tinted piece of clam shell; it looked like a fine piece of ivory. This was suspended round the neck by means of a flat strip of finely plaited grass, stained crimson, which was carefully "worked over" one-third of the ring (in a method known in the naval world as an "Elliott's eye"). The lower part of the ring, being thus left bare, was ornamented with a close fringe of opossum teeth bound together with string, tiny holes being bored in the ring in order to support it; and, besides this, had three big flat tassels of trade beads hanging down from it at regular intervals. Some rings have these tassels and teeth secured to a flat piece of turtle shell, which is bound at the back of the *éringi*. The whole ornament when worn hangs below the breast bone, and is exceedingly handsome.

¹ Manggota = "of, or connected with Manggo," under "Religion and Taboo," p. 384.

The almost invariable ornament on the arms is a shell ring (*hokata*). These, indeed, represent money to a certain extent; and are in use among the traders in barter for coconuts, etc. One place, Bili, at which I was camped, seems to have been a great emporium for their manufacture. I have sent to the Oxford museum specimens exhibiting the whole process, which is as follows. A suitable piece of a large clam shell (*tridacna gigas*; native name, *indaka*) is chosen, and roughly broken round to what is to be about the size of the outside diameter. This is then taken and ground down with sand and water till its outer edge is nearly circular, and free of irregularities. The native drill, to be described later, is next brought to bear, and with it a series of closely adjoining holes is bored, making a circle round the centre of an inch or so in diameter. A piece of a wiry creeper is next taken, introduced into one of these holes, and, by using it like a fret saw, in conjunction with sand and water (preferably fresh), the complete centre block is cut out.



TWO NATIVES OF NEW GEORGIA.

The ring is now placed on a stick of hard wood or stone (the latter shaped somewhat like the sharpening stone of a scythe), and the central hole is gradually ground out larger and larger upon it, still with sand and water, until the ring has

acquired the proper internal diameter. The completed rough article is then smoothed and polished with fine sand and a piece of bamboo, until both inside and outside have the proper finish. These rings are made large enough to go over the upper arm, and are ground flat on the inside but semi-circular on the outside, and are altogether about half-an-inch in thickness. A man may make one such ring in about two days, if he keep at work. Finger rings both of shell and tortoiseshell are also made and worn.

A man in full dancing dress wears as many rings as he can get on either arm.

When in mourning, a string of native cord is worn round the neck, wrists, and ankles, sometimes also in two diagonals across the chest. I have seen, besides, the bowl of an old tobacco pipe attached to the string worn on the neck, containing the little finger nail of the man whose death was mourned.

Painting and Tattooing.

The only paint used on the body is lime, and that only in thin lines on the face, called *mbusapänderi*. These are usually three in number, one across the eyebrows from temple to temple, one round the contour of the jawbone over the whisker before described, and one carried on from the temples over the cheek bone, ending at the bridge of the nose. I could never learn the meaning of these lines, but they seemed to be considered part of full dress; visitors, for instance, from one village to another, or even to our camp, always wore them; and after bathing the natives were careful to mix up some lime from their limepot, and put on the usual lines.

There is no tattooing in New Georgia, but raised cicatrices are very common; the design is almost invariably a frigate bird, or porpoise, or both; and appears on the top of the shoulder, shoulder blade, breast, and thigh. It may be worn on all of these at once, the porpoise occurring more usually on the thigh, and the frigate bird on the shoulder; so that I have thought it may have some reference to the desire to have the porpoise's strength and endurance in the legs for swimming, and that of the frigate bird's for the arms. Some natives will tell you that this adornment is allowed only to the sons of chiefs; but I have it on the authority of Bera, himself a chief, that anybody might wear one; and I saw many men thus marked who certainly were not chiefs. It is done during youth to one another by the boys, with a knife or a sharp shell. I did not see enough of the women to say whether they employ this decoration or no. One chief told me that his cicatrices had been done by a girl, when he was young.

Habitations.

The houses are uniformly constructed of wood and thatch, and divide themselves into two classes: the *Eruo*, or big canoe house, and *Palavanna*, or small living house.

Eruo.—The primary object of this form of house is to form a shelter for war-canoes, and some are solely used for this purpose; there is, however, in each village a large house of this description employed as a living house for the chief and his family, constructed as follows:—

Three or more strong posts are stuck into the ground, one of which is "*Hope*," or sacred, and has a figure carved on it, usually bearing a threatening attitude. Sometimes, in fact, generally, this carved figure is seen in connection with one of a conventionalized shark or an alligator; as often as not it is held in its mouth. One post that I saw was cut from a tree with a crooked bough, and this had been utilized to represent the arm of the figure; the hand held a carved revolver (!) pointed for firing. Round the foot of the post there is usually a heap of small pieces of dead coral, and a wreath of dead leaves is secured round the post itself; both wreath and coral heap have stuck all about them every imaginable, and unimaginable article—broken tobacco pipes, rusty and worn out trade axe heads, pieces of rusty trade knives, bits of paper, shells, old wine bottles, broken shell rings; in fact, anything broken, rusty, and no longer of use in the world of men, is dedicated to this house god.

The whole post is sometimes carefully patterned and coloured. The top of these main posts is cut with a semicircular mortice in which rests the ridge pole, a stout spar extending the whole length of the house, and two corresponding parallel spars rest on several short poles stuck into the ground at the desired width of the house, at equal distances from the ridge pole, forming eave poles, these latter uprights being not more than 4 or 5 feet high. Several big rafters made of trimmed poles are now lashed on with split cane, or strong creeper, between the ridge and eave poles; and then, between these, a great number of smaller ones, about 6 or 8 inches apart. Over these rafters goes the thatch, which consists of rods 6 to 8 feet long, with strips of ivory-palm leaves, or of a certain pandanus leaf, bent diagonally across it, and then stitched with a piece of split cane; thus making a sort of tile of leaves, 6 feet long by 2 feet wide. These are secured by a lashing to the rafters, beginning at the eaves, and in a well thatched house are no more than 4 or 5 inches apart. The inside appearance of these overlapping tiles is extremely elegant, and, except in a cyclone, they are

absolutely water-tight, and remain so for probably five or six years. At the gable end, the edging fronds are arranged neatly parallel to one another, and bound down to prevent flapping. The gable wall is not perpendicular, but leans outward, the ridge pole being longer than the eave poles. It also is thatched in a similar fashion to the roof, and occasionally has a pattern stitched on it with split cane over the thatching. At about the height of a man, a curved porch is contrived, which concludes the gable thatching above described; and is at such an angle as to prevent rain from beating into the house. If the house is only for canoes, there is no porch, but a long slit is carried up the gable walls to allow the immense ornamental prows of the war canoes to pass through; the lower part is closed in with a temporary thatch, and a square doorway is made to give access to the interior.

Palavanua.—The smaller houses—*Palavanua*—are built of the same material as the *Eruc*, but are quite small, and in appearance like the roof of an European house placed on the ground, with a doorway in the gable at one or both ends. There is usually a platform of sticks laid side by side, forming a sort of attic, about 5 feet from the ground, on which various household utensils are kept, but detached wooden hooks are also employed for hanging things on. I would note the custom of keeping the skulls of any animal eaten; these may usually be seen inside the houses, threaded on long sticks. They consist, for the most part, of opossum, turtle, and frigate bird skulls, and are kept either merely for ornament, or as a bragging record of former feasts and good living. I think that perhaps the custom has also some "religious" meaning.

The sleeping arrangements consist of a platform of sticks (similar to the "attic" above mentioned), just raised off the ground, with a piece of matting, or more commonly, a plaited-up coconut frond; the neck rests on a round billet of wood for a pillow.

The fireplace is usually near the open end of the house, to let the smoke escape, but there appears to be no particular spot for it.

In New Georgia the unmarried men do not sleep in a separate man's house, as so commonly elsewhere. In the chief's, or canoe, house there are generally a succession of bed rooms built along the sides under a sort of flat roofed extension from the eaves, quite small and low, with only just sleeping room for one or two. These are occupied by the wives of the chief, by his immediate relations, married and single, and also by visitors. I am informed that in Rubiana, the chief (Ingova), has a big house with separate large rooms like an European house; perhaps the idea is only borrowed.

In the smaller houses the division between married and single may be by the platform above mentioned, but otherwise I could see none. The boy children certainly sleep on it.

Natural caves, and overhanging cliffs, are used as dwelling places. Near a spot called Bili there was quite a large village, built with mats, etc., in the shelter of an ancient sea water-line, which had been scooped out of the perpendicular coral cliff by the sea when it was at that level in ages gone by, to a depth of 10 and 12 feet; and being afterwards volcanically upheaved, it is now 10 feet above the present high water mark. This curious undercliff passage extends for nearly a mile round the sea-face, varying in height from 10 to 5 feet, and mat-houses had been built in its shelter at various positions. Water dripped in many places from the numerous stalactites in the roof of this strange place, and was collected in basins cut by the inhabitants in the corresponding stalagmites, or in large clam shells, which had become cemented to the heaps of stones on which they rested by the drippings of the calcareous water from above. Close to this village was an odd coral islet called Totelavi, which, being circular, with flat cliff sides, crowned by a tuft of trees, strongly resembled a large flower pot standing on the sea-reef. The flat foothold round the base of the islet was inconsiderable in extent, and the houses therefore were almost altogether built in an undercut in the cliff, similar to that of Bili just described. There was one spot in the cliff wall where, by means of a rough ladder, one could scramble to the top of this coral block; and here, in the huge honeycomb pits of the crumbling surface coral, among the vegetation which thrive over all of it, a coign of safety might be found when head-hunters were on the track; and there was also a small hut built there, to afford more substantial shelter when a raid was expected.

There were small square recesses cut in the coral cliff above the rock houses, which contained several skulls, the last relics of the "rude forefathers of the hamlet."

Other buildings in New Georgia which deserve note are the piers, both stone and wood, which, with turtle ponds, may usually be found abreast of any seaside house.

The wooden piers are very temporary affairs, a framework of light strong branches stuck in the chinks of the reef, and lashed with creeper; but the others are formed of coral-stones off the reef built up, but without mortar of any sort, to the desired height. In spite of their loose construction they appear to last for a considerable time. The top is usually made flat and comfortable for walking upon, with earth laid in the chinks of the stones. Turtle ponds, formed of similar masonry,

enclosing a small, roughly circular space, the tide ebbing and flowing through the chinks, are also constructed. At Munggeri there was a house built on a masonry platform a little distance from high water mark, which was quite surrounded by the sea to a depth of 2 or 3 feet at high tide.

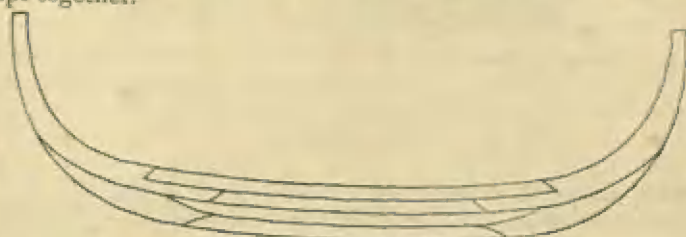


CANOE HOUSE, MUNGGERI, WITH SMALL "HOUSE" CONTAINING A SKULL IN FOREGROUND.

Navigation.

The canoes of New Georgia are built, as in the rest of the Solomon Islands, on the Malay model, with high prow and stern post. Nothing can exceed the beauty of their lines, and carefulness of build—considering the means at disposal—or their swiftness when properly propelled. They are a most astonishing revelation of scientific art in a people little removed from complete savagery. These graceful boats are of all sizes, from that of the "one-man," of 8 feet long, to the great war canoe, or *tómako*, of 40 to 50 feet, which will hold perhaps thirty-five men. Whatever the size, they are all built on the same lines, and in the same manner. The accompanying sketch gives an idea of the distribution of the planks and the way in which they are butted together. (In a racing canoe there are, I am informed, many more pieces than usually employed and planed much thinner; and the boat is narrower for its length than in the ordinary model.) The planks are planed down to about half an inch in thickness or even less, but leaving in the centre of each a strengthening rib, which projects about three-quarters of an inch along the whole

length. The two corresponding planks of opposite sides of the future canoe are placed together and bent between posts struck into the ground at the necessary curve, and when each pair of planks has thus received its proper bend, the whole boat is stitched together with a three-plait of coconut fibre, or of some "bush" material, through holes bored about 2 inches apart, along the sides of the planks. The seam is then caulked with a white sticky substance (*Tita*, obtained from the egg-shaped fruit of the *Parinaria Laurinum*) by rubbing its surface with a rough piece of stone. This substance, at first white and sticky, becomes when dry, black, and nearly as solid as pitch, and makes the boat watertight. It must be kept under shelter from rain during the hardening process, which takes from a week to ten days, according to weather. The shape of the boat is preserved by half a dozen strong ribs, each cut from a single piece of wood, the central one being much stronger than the remainder. At the places where the ribs are to be secured, the mid rib of the planks is left much thicker for a few inches, and, by means of a stout cane lashing, passing round the rib and through two holes in this extra piece, the sides of the boat are kept together.



Close to the ends, where the boat is not more than 3 or 4 inches in width, the two side planks are bound together with two or more neat "seizings" of split cane through similar chocks on the ribs. Both ends are pointed, and though there is a difference between bow and stern, it is not observable to the untrained eye. There is no decking, even to the largest canoe, but the paddlers sit on small flat pieces of wood on the bottom, or raised like thwarts in the larger sizes of boats. One has to be careful that these seats rest on the plank mid-ribs, and not on the planks themselves. In the war canoes there is in the centre a sort of platform of sticks, similar to those in the houses, on which to place the heads of the slain, or to carry food and other things upon; and there are also wooden crutches at intervals along the length of the boat, to support spears, fishing rods, etc.: exactly filling the purpose of "boom irons," in a naval pulling launch.

The bow and stern of all the war canoes, and sometimes also of the smaller canoes, are beautifully patterned with inlay work of mother-of-pearl, and a string of porcelain cowries is secured all the way down the great prows. On the top of the prows of the war canoes there is usually a carved figure, the commonest being a *Késoko*—to be described later—while the small canoes often have some fanciful design, such as a butterfly with hovering wings, a cockatoo, etc., carved and coloured. All canoes are invariably stained black outside, while the inside is uncoloured. Low down on the prow above the water line the head and shoulders of a "*debbledabbleum*" (called *Totoishu*) is suspended; it is so placed as to dip in the water in front of the canoe.

The function of this *Totoishu* is to keep off the *Késoko*, or water fiends, which might otherwise cause the winds and waves to upset the canoe, so that they might fall on and devour its crew. This figure (*Totoishu*) has a more or less human face, of malevolent, and extremely prognathous countenance; the nose and chin being almost at a right angle to the curious pointed head, the chin resting on his two closed fists. Just above this figure a small tablet of wood is hung. It is coloured in red and white, and has a curious resemblance to an Egyptian hieroglyphic tablet. A large canoe takes about two years to build.

The *baler* in the smaller canoes is roughly made of a banana leaf, stitched somewhat into the shape of a small coal-scoop without a handle; I believe that the same shape, but in wood, is used in the bigger boats.

The *paddles* of New Georgia are a good deal different to those of the neighbouring islands, having a long loom, a short broad blade, and a crutch handle. A man's paddle is a fathom long, a woman's about 4 feet. No steering paddle is used, the steersman working his paddle on either side as necessary. When underweigh, a perfect and rapid stroke is kept, the paddles are worked solely with the hands, without the aid of a rowlock. Mr. Kelly informs me that to "catch a crab," or lose stroke in a war or racing canoe is considered an unpardonable offence; and a man who had done so twice in one day was straightway landed from an expedition which was just setting out from Rubiana, and came to live on his (Mr. Kelly's) islet until the affair had been partly forgotten. The same informant also tells me that a well-manned racing canoe will keep up a speed of seven or eight knots an hour, for over an hour. I can certify that it took our steam launch, going at about that pace, two hours to catch one of them up.

I can give no information about native sails, as sails of

European calico and cut, usually with a sprit, are now invariable, the mast being stepped near the centre of the boat.

The ceremonies attending the launch of a new canoe are often terrible, as described by Mr. C. M. Woodford, in "A Naturalist among the Head Hunters."

I never saw any of these functions; but Mr. Kelly told me that in Rubiana, among other ceremonies, two virgins are selected—one of whom is publicly violated, while the other is "*Hope*," or tabooed, and is kept a vestal for fifty months: a guard is placed over her; and death is the penalty should she transgress.



NATIVE WITH CANOE, SHOWING "TOTOISHU."

Swimming.

The New Georgia natives, except the younger folk, are not much given to swimming or diving, unless of necessity; they swim on their faces, reaching out with one arm at a time

When diving, they jump into the water feet first, recover themselves, and then draw breath before going quietly under. They remain under water without distress for a long period. I never timed one, but I should say that a minute's duration was quite an ordinary time to stay under; and they will keep coming up after such an interval for a breath, while working under water, and immediately dipping under again while picking up fish blown up with dynamite, gathering pearl shell, or as happened to me once, clearing a rope which had fouled the propeller of my steamboat. I have seen them keep this up for ten minutes and more at a time, and they could probably do so for much longer.

At many of the seaside villages a bamboo "Eiffel Tower," is erected to a height of 20 to 30 feet on the deep water edge of a fringing reef. The youngsters climb to the top, and then jump off face downwards with a yell, with arms and legs all spread-eagled out; but just before reaching the water they straighten up, and go in perpendicularly, with feet first, and arms close to the side.

Weaving and Basketwork.

I believe the art of weaving to be quite unknown in New Georgia. I never saw nor heard of its practice, but basket-work of the flexible variety is common, some villages having a monopoly of the trade. I regret I can give no description of the manufacture, never having seen it done, but the baskets are almost always small and circular, without handles (some have flexible handles woven in after the completion of the basket), and sometimes ornamented with a bunch of the strands hanging in a circle from the bottom of the basket. (The native names of two of the materials are *mare* and *hengi*.) Baskets, are, as a rule, of one colour; but patterns in red and buff, of a geometrical design, are quite common, and indeed the plain one-colour baskets are usually plaited with a pattern of the same colour in the stitching. The red staining is done with the seed of a big tree, common enough in some parts of the bush; which produces, on pressure, a bright scarlet dye (*Mbusa*).

These baskets are almost solely used for containing the lime and betel, pipes, tobacco, fish-hooks, shell rings, and the hundred other unconsidered trifles that a New Georgian invariably carries about with him. It is like a schoolboy's trouser pocket for variety and uselessness of its contents, and is the first place to hunt in for "curios." The baskets are slung over the shoulder by a cord stitched or woven, as before mentioned, into its opposite sides. They vary in size from about 15

inches to 5 inches in diameter, and from 10 to 5 inches in depth.

The *lave lave*, or shields, are also made of basketwork. In New Georgia as far as I could discover, these are made in one village only—*Pondókona*—and are now exceedingly difficult to procure, at least we found them so.

They are of a long elegant shape, and so strong and closely woven that they will easily turn a spear thrust. The same odd pattern appears on all of them, stained in black after the shield is made, and not woven in at the time. It is carried with the smaller end up by a padded handle at the back, and the hand-hole is often further protected by a piece of turtle shell, or several pieces of a large leaf, stuck between it and the back of the shield. There is a small feather plume stuck into the top.

In the other Solomon Islands beautifully fine plaited work in yellow and red appears on the spears, combs, and other articles; but I saw none in New Georgia that was indigenous.

For gardening purposes, or the carrying of pigs, or coconuts, a coconut leaf, with the fronds plaited up, is employed; these cut into two halves by splitting the mid-rib of the leaf, are also scattered about in the huts to sit on, or to form partitions, etc.

String.

String is made of materials found in the bush, and is both three-ply, two-ply, and three-plaited. It is not spun into yarns, but just rolled on the thigh, "hove up" into string, and then given the reverse motion to keep the lay taut. It is of all sizes, from about one inch in circumference, which is used for turtle nets, and is stained deep brown, to a fishing line so transparent and delicate that it looks like the finest gut, and is used for catching small fry with.

Nets.—The turtle nets are made with a needle which is just a long shaped reel holding the cord, and the mesh is a flat piece of wood almost always ornamented with a carved bird. The hitch used in netting is exactly the same as ours—not the "slippery" one. The net is weighted with stones, which have a hole bored through them, and the floats are joints of bamboo, or lumps of wood with a "*debbleum*" kneeling or squatting on them. Occasionally they assume a conventional form, which is called *pepele*, or "butterfly."

Nets are made of all sizes of mesh, the turtle net being about a 6-inch mesh, while the nets which are sometimes used in place of a basket for carrying betel and lime, etc., are of fine strong white or brown twine, and with a mesh about the size of a drawing pencil.

Pottery.

Pottery is, so far as I know, unknown in New Georgia; nor have I either seen imported ware from other islands, or heard of broken pieces that had been dug up.

Probably this art has never been practised.

Dyeing.

The favourite colour is red; used to stain basketwork, carved work of canoes, etc.: it is procured from the pips contained in the nut case—very much resembling a beech nut, which comes from a large tree in the bush of the native name of *mbusa*. A bright blue is obtained from the wild indigo, which is bruised up with lime and water, and is used in dyeing bark-cloth.

There is a yellow colouring, also obtained from a plant. I am unable to say of what species.

Black is obtained from wood-ashes mixed with water; a better staining is procured from a particular black clay, known as *noti*, which is found, as far as I know, in one place only, near the head of Piongo Ombo (Ombo River); and is used universally for staining the teeth black, as is customary among them.

Stone Implements.

I never succeeded in procuring any stone implement in New Georgia, but Lieut. Munro, one of our officers, discovered a broken club-head on Kulambangara Island—now in the Oxford Museum. They have probably all been long ago sold to traders and others. The native drills all have now-a-days a piece of an old triangular, or rat-tail file as a borer. Formerly, no doubt, this was of stone or shell. A mortar, made of a volcanic water-worn cobble-stone, is common. It is used for bruising nuts or any hard food to a suitable consistency; a specimen of this also has been deposited in the Oxford University Museum.

Machinery.

The native drill is, I suppose, the only article in use in New Georgia to which the term "machinery" can be given. It consists of a long spindle of areca-nut palm, varying in length and diameter with the size of the borer required to be used, between about 18 inches and 2 feet in length; the upper end is notched, the lower is recessed to take the borer; which, nowadays, is almost always an old sharp-pointed file: 4 or 5 inches above this, a rotatory fly-wheel is placed. This is formed of a flat disc of stone, about 4 inches in diameter, and an inch thick. Motion is produced by a cross arm with a string attached to the ends, the bight of which lies in the notch before mentioned; and the twisting and untwisting of the string round

the shaft causes a rotatory motion to the borer, first one way and then the other. This cross piece is quite separate to the spindle; it travels up and down on the side of it, and there is no hole or notch in it for the spindle to go through, or rest in.

Fire. (See Plate XXXV.)

Fire is made by friction with a stick in a long shaped groove. A dry, well-seasoned piece of wood is selected, very commonly the flat board used as a canoe seat, and a small piece of equally dry wood—a splinter of deal does well enough—is sharpened for the stick. The point thus made varies a little in various parts; but the most usual is with the upper surface flat and a point bevelled-up.

A great deal of the art of fire-making rests in a well cut point, neither sharp nor blunt, and with the facets underneath at a correct angle. It is necessary to squat in a certain manner on the piece of wood in which fire is to be made; that is to say, with the left leg stretched out, and slightly bent, and the right foot over the wood and under the thigh of the left leg; so that the right leg lies flat, and sharply bent at the knee. The body rests on the end of the wood. This position was pointed out to me as important. The fire-maker having sharpened his stick proceeds then to cut off a few outside shavings from the large flat piece of wood he is sitting on, so as to get a true and clean surface, about 6 or 8 inches long, in which to make a groove. He then seizes the stick, which must be held closely pressed against the under surface of the right hand, crossing it diagonally, somewhat as one holds a pen. The left hand should lie on top of the right hand and give an extra grip with its thumb, over the right thumb grasping the stick. The fingers of both hands must be extended and the "business" point of the stick should protrude an inch or so beyond the fingers. This position of the hands is quite essential to the proper production of fire, and much care is exercised to seize the stick in exactly the proper method, at the proper spot, and to keep it at a proper angle with the flat wood.

The stick being properly arranged, the fire-maker proceeds to rub the point backwards and forwards on the flat wood; carefully varying the angle of pressure by raising and lowering the wrists, until a groove 3 or 4 inches long is formed. The motion begins slowly, and as it continues, the groove gets blackened, and a small heap of fine, dust-like shavings collects at the further end. Now is the time to quicken up; the seizure of the exact moment being entirely a matter of practice. A little thin column of blue smoke is soon seen to arise from the wood dust, and then another critical moment must be seized—

also learnt only by experience—to cease the frictional motion, and to blow gently on the slightly smouldering wood-dust. One hand must guard the tinder from blowing away, and if the breath is properly applied, the smoke from the little black heap gets more and more, till finally, all the wood dust can be seen to be red and burning. A few little dry chips placed on it soon catch alight; and the production of fire is complete. If proper attention be paid to position of body and hands, the learning how to produce fire does not take long. I did not proceed with my lesson in the art for long enough, but all of us who tried very nearly managed it, and one actually got his tinder to burn; but not being experienced enough in nursing the young flame, it died out again.

So far as I saw and know, there is no religious idea with regard to the production of fire; any one who can make it, and European matches (*ikuchu pindala*—fire strikers) are very much preferred to friction as a means to procure it. An *ikuchu hope*, or sacred fire, is made on some occasions, to be described later, and the remains of them may be seen scattered about in all sorts of odd places in the bush.

Drawing, Sculpture, and Ornamentation.

Although there is no system of drawing which in any degree exhibits an idea of "writing," the arts of drawing, sculpture, and ornamentation are wonderfully common in New Georgia. In any village one man, at least, can always be found skilled as a carver; but the majority seem to be possessed of this faculty in a moderate degree. There is, however, in drawing, a noticeable poverty of subject; the specimens which accompany this paper pretty well exhaust their list of representations—canoes, men, *toto ishu*, frigate-birds, porpoises, alligators, and sharks—all of which are figured more or less conventionally.

This particular drawing was of course done with pencil and paper for our edification, but their usual appliances bring the resulting design more properly under the heading of "Ornamentation," as they are scratched with a sharp knife on a piece of bamboo or a lime gourd—and blackened with charcoal from a fire or whitened with lime from the *mbinu* pot.

There is not the slightest notion of perspective, and all objects are shown in profile. Occasionally symmetry is introduced, or, any way, attempted, and pattern is commonly produced from highly conventionalised figures of frigate-birds and fish, often showing great skill in the adaptation. I fancy there is no idea of drawing from nature, but though the figures produced are not absolutely copied from another man's work, still all are drawn more or less in the same manner. Conventionality

however, has not yet reached such a point as to render the subject depicted indistinguishable as a natural object.

I have sent to the Oxford Museum a specimen of a native drawing by one man, which was deliberately intended as a portrait of another. It was drawn as a sort of joke, in imitation of one of our officers who had just made a recognisable portrait of one of the natives, which had pleased them a good deal, and of which they fully appreciated the likeness.

European drawings are a great source of pleasure to them; they seem to quite understand them, and took special amusement in a political cartoon I once showed some of them, in which the figures represented an eagle and a snake with human heads. Photographs of people and places also are easily recognised; and those of some spots in and near Rubiana with a portrait of a man, taken by Mr. Woodford, the engravings of which appear in "A Naturalist among the Head Hunters," were recognised and named.

The colours used in painting carvings are black (charcoal), white (lime), and red (of the material before mentioned), blue (obtained from indigo—or also washing blue from the traders); and, rarely, yellow.


As regards the drawing of maps, I am given to understand that a framework was procured by Captain Stopford of H.M.S. "Curaçoa," in one of the Solomon Group—not New Georgia—in which shells large, and small, represented islands and harbours in the vicinity; and strings connecting them showed the course to be steered in order to fetch them. I think there is no idea of a graphic representation, though some men I once showed the chart I was employed upon fully understood its convention and purpose after my explanation of it; and pointed out, quite correctly, to other natives where the various islands, etc., were situated on my chart.

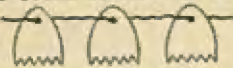
Carvings are done both in incised lines, raised pattern work, bas-reliefs, fretwork, and sculpturing on the round; bas-relief being the least common. Specimens of all have been sent by me to the Oxford University Museum. A great distinction is made in sculptures of "*debbleddebbium*" (*manggota*) and men (*tinoni*)—these latter are produced almost solely for trade—the Manggota being almost grotesque in proportion, with the face a great deal too large, the top of the head terminating almost in a point surmounted with a sort of cap (representing hair); while the nose and lower part of the face are almost doglike in prognathity.

The representations of men (*tinoni*), on the other hand, are not at all badly proportioned, and show a very fair amount of observation in anatomy; the head and face are neither disproportioned,

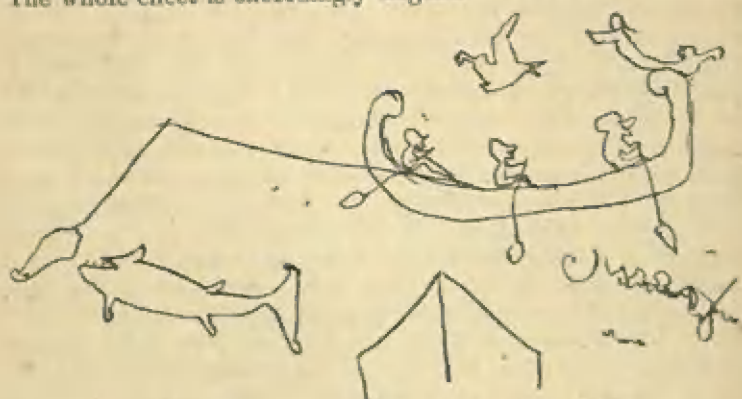
nor distorted. It is hard to say whether the frigate-bird, shark, porpoise, and alligator are considered as *totems* in New Georgia, but they appear in sculpture more than any other forms. On the prows of canoes a carved representation of a butterfly, with half spread wings, is a favourite design, and at Peava I saw a beautifully carved figure of a cockatoo on one canoe, coloured with European paints.

Ornaamental patterns have reached a high degree among these savages, almost every article in daily use has some slight pattern on it; the tendency is towards conventionalised forms of frigate birds and porpoises; while in geometrical designs the favourites are triangles, and squares in double lines, the outer of which is commonly "feathered" with short oblique lines. The extremities of the outer line are not joined, but curved back.

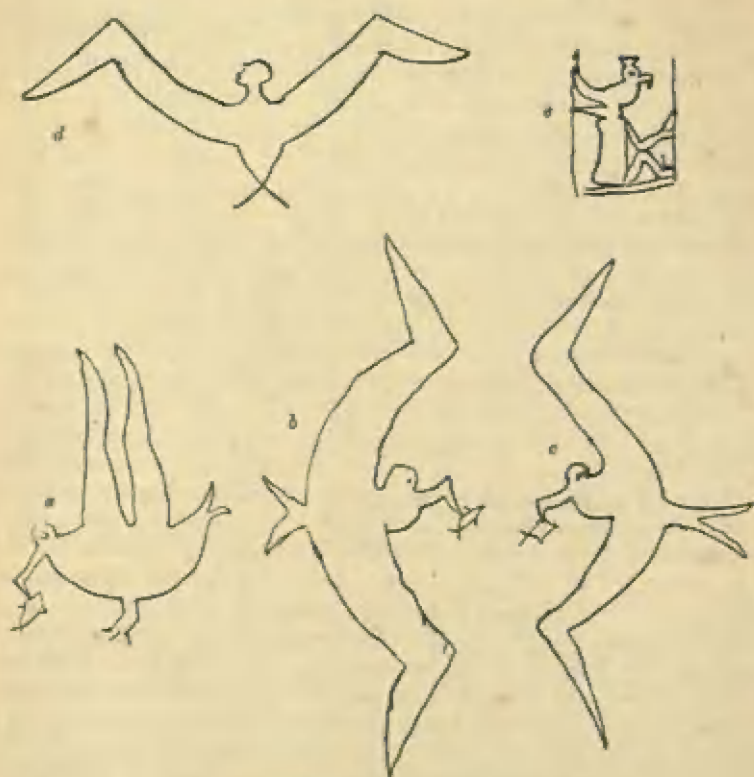
On decorated canoes the mother-of-pearl ornaments are cog-wheeled circles,  lines formed by a succession of ZZ, and

a curious comb formed of a number of pieces of shell in this pattern,  is tied to the inner sides of the

prows, from top to bottom. The outer edge of the prow, from the white plumed figure that sits on the top, to the *Totoishu* at the water line is ornamented by large pure white "porcelain" cowries, secured transversely. Between each of these a piece of small bamboo, wound round with red turkey twill, is tied, also transversely. Each piece of bamboo is about 6 inches long, and has a small tuft of white cockatoo feathers at either end. At nearly half way down the prow there is always a small gap in the shell ornaments, but I could never discover the reason. I noticed the same on several canoes, all similarly adorned. The whole effect is exceedingly elegant.



SPECIMENS OF NATIVE DRAWINGS. I. Shark-fishing.



SPECIMENS OF NATIVE DRAWINGS. II.

a. b. c. Three frigate-birds (*Mb lema*); d. Frigate-bird with man's head (*Kiriru*); e. Man with frigate-bird's head (*Késako*).

Food.

The variety of food in New Georgia is singularly small, even for Oceania. Yams are scarcely grown at all, and are very small. Taro, sugar cane, sweet potato, and the Cape Marsh potato (grown principally in Russell or Cape Marsh Islands closely adjoining New Georgia, and nearly approaching the Irish potato in flavour and flouriness), exhausts the list of vegetables under cultivation. Bananas, papaws, and a poor species of bread-fruit are the only cultivated fruits; the "Kanakan apple" and two other exceedingly nasty acrid fruits, whose native names I cannot give, (I believe one to be a species of mango), grow wild; as does also the kanary nut (*maria*), and a nut (*ndinggi*) which grows on a small tree with a big, fleshy

uneatable (?) fruit; twenty or so together on a long stem. The coconut is, of course, the main staple of existence.

Of animal food, it might be almost said that there is none. Pigs are extremely few, either wild or tame, bullocks and sheep they have never so much as seen—two skinny specimens of Queensland sheep we had on board the "Penguin," occasioned considerable consternation to some of them who saw them for the first time—and there are but a very few fowls. The only meats that they get are opossum (*cuscus*); which when broiled is excellent, though rich eating; turtle, frigate bird, pigeon; the big monitor lizard (only eaten by "man-bush"), coconut-crabs, land crabs, cray fish, and cockles; and finally, the chief support of life (beside the coconut), fish, which they catch very cleverly with nets, rod, line, and hook. They are very fond of European tinned meats, known generically as *bulumakan*; and a small boy's heart is sooner reached by jam, than even tobacco.

I cannot say for certain, but believe that no restrictions are placed upon kinds of food to any one, chief or women; and it may be cooked by anyone, though usually by the women. One whole tribe, in the neighbourhood of Ngarási, will not eat pigeon; it is *hope* or forbidden to them, and no one, anywhere, will eat either shark or crocodile.¹

There are but two systems of cooking, one by broiling and second by baking in an earth oven. A sort of pudding is made with kanary nuts, which are stamped into flour by men with poles, in a long wooden trough hollowed out of a log. There is no trace of "kitchen middens" anywhere; the refuse of food must in any case be small, and what there is is consumed by the dogs or pigs.

There are no sorts of manufactured drinks made, coconut milk and water (which is kept in coconut shells) alone are used. Neither palm wine nor kava are known. The natives however take very kindly to tea, coffee, and cocoa, if well sweetened. Alcoholic drinks are exceedingly repugnant to them; those only who have been employed with traders and other whites will take them; partly I think in bravado.

Meals seem very uncertain affairs; there is only one regular one in the day, in the evening. I believe the women eat separately after the men have finished. In the men's basket you will usually find a piece of fish to carry them through the day; but the universal and eternal chewing of betel probably takes away

¹ I may mention here that wild ginger (called *mínilla*) is also eaten, or rather chewed; the presentation of a piece to another person signifies your declaration of "war" against him: and for this reason it was some time before we could induce the natives to eat any of our gingerbread biscuits, until assured we meant them no harm.

most of the desire for food ; and a small piece of coconut quite suffices for both breakfast and lunch.

Feasts are held on all occasions of joy or grief. As regards the former I have no information ; but I witnessed one of the latter, the last of a series of three in honour of a dead chief, by name Sava.

A large pig was chosen, and, though I did not actually witness the event, it was explained to me that it had been killed by suffocation ; its nose having been tightly tied up with a piece of creeper. It was then placed on a sort of large grid-iron made of boughs, and a small fire lighted underneath ; the skin and hair thus becoming singed, were scraped off by two men with coconut shells. When completely scraped, the pig was taken off the fire, opened up, the entrails removed—edible parts alone being retained—and the whole pig divided into sixteen portions, the head and the hams forming one each. These (with the exception of the hams, which I bought for our camp) were then placed, without further dressing, in a hot-stone oven, and cooked.

Meanwhile, a party of eight or ten young men were stamping *maria* (kanary) nuts, which had been brought to the feast ready cracked, the kernels packed in large baskets holding thirty or forty pounds ; and were soon formed into a flour, which, with coconut milk, was cooked into a pudding to accompany the pig. There were men from all parts of the district ; and their wives, while the cooking of the pig was proceeding, sat in the shade in a small canoe house, placidly chewing betel. At an order from Bera (the chief giving the feast), however, they all came out into the sun, in order to be photographed.

Some of the canoes left that night for their homes, so the fun was not very fast or furious ; the others had all left before the following sundown.

Cannibalism.

Cannibalism is undoubtedly still practised in New Georgia, but I can give no particulars ; as if it was done during our visit, it was in the utmost secrecy. I am informed (by a trader) that a special ebony fork, 6 feet long, with three prongs, and inlaid with mother-of-pearl, is used ; and that death is supposed to follow any one who takes a piece of cooked flesh in his fingers to eat it. The existence of such a fork is utterly denied by the natives and the description as above seemed quite novel to them. Natives I have asked say that they never eat man, but that "man-bush" often does so still. Mr. Guy, a trader we had known during our 1893 season, was killed and eaten—his head alone being recovered—shortly after we left his vicinity. He was said to have been sacrificed in connection with the launch

of a new canoe at a place called Ndsai(?), and his boat's crew, with one exception, shared the same fate. Two great friends of ours from Munggeri were, we afterwards heard, noted cannibals, who frequently went on raids into the adjoining bush to satisfy this appetite. They were certainly, so far as we saw, otherwise, two of the best dispositioned men we had dealings with, and I had them constantly at work for me. My information was from a small native boy, so is probably true.

Religion and Taboo.

It may be safely said that there is no "religion," strictly speaking, in New Georgia. A series of good spirits, or *hope*, live in the sun, the moon, and the stars (according to the Eastern natives); one of them *Ponda*, or *Pondo*, who is their special friend, lives in the shooting stars; while another one, also a "good fella," lives in the ground. (*Note.*)—Another name obtained for this person was *Sondo*, and it seemed to refer also to the abiding place of souls.

The following is the belief regarding a man's entity, and its disposition after death. Each person consists of a body, what may be roughly termed a spirit, and a soul. The spirit is one's *reflection*—as in still water or a looking glass—the soul is one's *shadow*, as thrown by the sun, or artificial light; the former is evil, and the latter good; each person, supposedly, being a combination of both, though by what ethical laws the discrimination is made, it would be hard to say. I was a good deal interested to hear the year after I obtained this information from absolutely untampered sources in New Georgia, and in their native language, that a precisely similar belief occurs in Fiji. It seems to me a very remarkable identity, and it is strange to find it also in such an unlooked for field of thought, among either of these half-savage races, as that of metaphysics. At death, the soul, or shadow, goes to live with (or at) *Ponda*, the good spirit, nobody knows exactly where; but a man may meet his wife (his other relations as well) in this place, while the spirit, or reflection, remains on earth, and lives principally in the bush, where it will fall upon anyone venturing near it, and kill him if it can. It also comes in the form of a ghost, to frighten people at night in their houses, tapping, tapping, and inspires men to do bad actions. I had all this information at word of mouth, mostly in the native language; so it may be relied on as being original. After a period of years, this "spirit" gradually fades away, and eventually dies altogether. I should add that there is but one name for either soul or spirit: they are called *manggo manggo* alike.

Besides these human emanations, however, there is a wide

belief in "*debbledabbleums*"—called collectively *manggota*, and described as *tingitonga ehiena*—something evil. There are those of the sea, and those of the land. They are not looked upon as absolutely spiritual, or supernatural, but as having a real flesh and blood existence, though endowed with power over the affairs of nature. Probably I have not heard of all the *manggota* that are supposed to exist, but one marine monster, very frequently depicted on the prow of canoes, is called *Késoko*. I have sent several specimens of carvings of this creature to the museum, and no one can see it without being struck at the fortuitous, but none the less striking, resemblance to an ancient Egyptian mythical being. The figure consists, roughly speaking, of the body of a man, seated, with his elbow on his knee, wearing a big ornamental collar, and surmounted by the head of a frigate bird; both head and body largely conventionalized.

The figure also wears an ornamented waist cloth, and is always depicted in exact profile, and highly coloured. Indeed, from his profile view having always been presented, and thus only one leg and one arm able to be shown, the belief now is that *Késoko* has but one arm and one leg. It is said to live in the sea, and to be able to command the winds and waves, to capsize canoes; and when this is accomplished it falls upon the occupants and devours them. The natives say that it usually lives on fish, that plenty of men have seen it, and that at almost any time it may be heard in its home under the edge of the coral reef, blowing out the air from its lungs (the air sucking and puffing through the holes in the reef). His power is combated, however, by *Totoishu*, a small figure of a man's head, supported on its two clenched fists, the face of extreme and dog-like prognathity, generally painted black, with the features emphasised by mother-of-pearl inlay work. It is always tied to the prow of the canoe at the water line. (This same figure is exactly reproduced, with similar functions in Florida, where it is called *titinoni*, a word that in New Georgia might perhaps mean "belly of a man.") I was never able to discover if *Totoishu* were a land, or a water being.

I now come to the land "*debbleum*," which is usually spoken of as *Manggo* (without the reduplication of the word). This subject seems to me to be one of great interest, and if it is, as I believe, the rude native description of some rare, and, to them, terrifying creature, it carries outside Ethnology into the domain of Natural History. I will give five descriptions of the creature, which I took down at word of mouth, in their own language, from men, sometimes spokesmen of parties of visitors, of whom I had inquired for information.

(1) "In the bush, near the mountain top, lives *Manggo*, a

huge creature with arms and legs as big as coconut trees, and hair all over his face. No man has seen one close, because if any one goes near enough to it, it kills and eats him, and so he never returns."

(2) "There are two kinds of *Manggo* in the bush, one good, and one bad. The former, if you see it, makes you fall sick; several men have seen it, I have not; but it was of the height of a man. The bad one has sharp (*nyachundi*, like a spear point) elbows, shoulders, and knees; and those who see it die of the effects."

Lipu, a friend of mine, who *had seen Manggo* in the bush above Vaholi (opposite our camp), told me as follows:—

(3) "He was about as big as a man, with an enormous head of black hair, and there was hair over all his face as well. He had a long nose and the lower part of his face stuck out like this (illustrating with his hands, making his mouth and chin protruding like a dog's face). His body was covered with light coloured hair, he had no tail, and he had hands for feet: all his hands had large talons. He lived in a hole in a big tree, and when I (Lipu) saw him, he was going along by his hands by the creepers, from tree to tree. *Manggo* do not eat man, but if a man sees one, he get sick; they have a very unpleasant smell."

Lipu also told me in reply to my question that he had himself been ill after seeing this *Manggo*. This, and an inquiry as to whether it had a tail or no, were the only questions I asked him. All the remainder was given out straight, without any promptings. This man had once seen a small monkey on board a schooner (in reply to my question), but apparently did not at all connect it with a *Manggo*.

(4) "There are three sorts of *Manggo*: *Chinoko* (dark coloured), *Hewa* (light coloured), and *Orawa* (coloured, i.e., red or yellow). Some men only get sick, but others die on seeing one."

(5) Another man who *had seen* one—I did not get his name—said that it had black hair all over; that *Manggo* have been known to take big stones and *puava* (soil, generally) up into the trees, and drop it upon men's heads. Sometimes they come down to the salt water.

In confirmation of the last statement, I will only say that one of our officers, Lieutenant Waugh, told me that he had seen a strange large hairy creature, with a head like that of a dog, lying on a bough in the bush near the water line; but that he did not get a proper view of it.

I should remark in conclusion that the bush in the parts where the *Manggo* are stated to have been seen, is certainly not inhabited by man. There are a few coast natives, who have one small bush refuge-village—the rest is undisturbed and trackless forest, without smoke or sign of life at any time.

While I am on the subject of strange animals, I may remark that the natives report a small rat (apparently) called *chichiunggu*, of which I have sent a carving on a canoe prow to the museum.

It was explained to me, by bodily illustration, that it hopped like a kangaroo, and was very small, and difficult to catch. It lived away back in the bush, and seemed to be thought *hope*, or sacred.

Other *hope* creatures are *kakaka*, the great fish eagle, *totoa* (*caprimulgus nobilis*, a night-jar that makes no nest, but lays its eggs on the beach), and to the Ngarisi natives only *kuru kuru*, the ordinary grey Solomon Island pigeon. This latter may be shot by these people, but not eaten. The shark and the crocodile are both also *hope*, because, as one man explained to me, they eat man. In Rubiana they may not be even touched; but in the eastern part, though they may be killed, they must not be eaten. I was informed, however, by Mr. Kelly, of Rubiana, that a man of that district, whose child had been carried off by a crocodile, had had the *hope* removed off these creatures, as far as he was concerned, until he had killed one hundred. A crocodile usually appears roughly carved, in connection with the figure on the house post before mentioned.

Hope Altars and Graves.

Once or twice in the year, after a feast, food is placed out for the *hope*, or spirits, in certain places in the bush. A small altar, surmounted by curiously shaped coral stones, is built, and on it are placed all sorts of useless and broken articles—pipes, tomahawks, knives and rings—near it is usually a small circular place of stones where a fire is lighted and food cooked. There was one such on an island on which we were camped, and when I inquired what the place was—thinking it a grave—I was told by Bera, the chief, that it was a *hope* which he had himself made, and he seemed surprised at my visiting it; as a native who so much as *saw* the place after it had been first made, would get sick and die. Near the big altar was a small flat stone on the ground, surrounded by still smaller ones in a border. It is necessary to discriminate between *hope* altars and graves. They much resemble one another, but the latter may be sometimes just a walled in place instead of a heap; and if it is at all recent, and its occupant lately possessed of wealth, it is common to see an article of value deposited on it—a shield, a whale tooth, or shell rings, some broken, some whole.

A carving of a *hope* may be seen stuck in the ground at almost any village in New Georgia. Although these natives have a very good idea of carving the human face or figure, the faces of these are so roughly made as to be almost conventional, the eyes, mouth, etc., being depicted by pieces of mother-of-

pearl or shells. An ugly, forbidding, and foolish face is generally the result, with wide staring eyes, and a long pointed chin; beneath which lie two entirely disproportionate atrophied arms, growing from the ears; from which, downwards, they follow the line of the chin. There are no other features or limbs. This figure, which is almost invariably made of a fern-tree stump, stands in a small heap of coral stones, decorated, as usual, with broken pipes, etc. I could discover nothing of the functions of this *hope*, but presume that, like the *hope* in the house, it is a sort of protector of the village (as the others are of the individual houses) against Manggota.

Other Hopes.

The preventive against trespass and robbers (of coconuts, chiefly), is the putting up on the spot of *hopes*. There is probably a separate proper name for them, but I could never obtain it. These fulfil the double purpose of warning trespassers or thieves that the place is *hope*, or forbidden to them, and also of carrying mysterious punishment if the warning be disregarded. There are two descriptions; one bringing death on the committer of the trespass or robbery, the other sickness. A death *hope* consists of single sticks, 3 or 4 feet long, stuck in the ground at the landing places or entrances to the coconut plantation, or garden desired to be protected. The top of these sticks is split for a short distance, and in the cleft thus formed dead leaves, a piece of fern root, and a wisp of grass are placed, surmounted by (rarely) a skull, a piece of ants' nest, or a large shell: either of these constructions informs the intruder that he will wither away like the grass, and become as dead as the original owner of the skull, as the ants that once lived in that piece of nest, or as the fish that inhabited the shell, according to the emblem of mortality exhibited. A "sickness *hope*" is similarly constructed, but is surmounted by a piece of coral, instead of the other articles. A curious description of *hope*, that I saw in the bush on the road to Vonggi, was erected against the stealing of opossums from a certain man's property, and was made of long tree-fern stalks, secured in the form of a slight post-and-rail fence, 12 feet long, and 4 or 5 feet high, bound up with creepers. At the top of one end-post was a small cleft stick, supporting a piece of twisted twig, vaguely resembling a bird or an opossum.

Another description of *hope* that I saw, was made by putting a festoon of a certain creeper across the entrance to the coconut grove, with pieces of the same along it at regular intervals, hanging perpendicularly down, and secured to the ground. I had two natives with me at the time, and at first they did not

like to land on the islet thus marked, as it had been "*hoped*" by their chief, Bera. They did land eventually, however, and one of them went under the *hope* barricade, picked the central tiny shoot of a large fern, in appearance like the English hart's-tongue fern, from which he nibbled a little bit, and then handed it to the other man, who did the same. They assured me that now the *hope* would have no effect—so long as they did not steal any nuts. In the eastern districts I was informed that a chief only could make a *hope*; in Rubiana the possessor of any land can do so, and here the effects of the *hope*, whether robbery has been intentional or no, can be frustrated (Mr. Kelly told me) by the payment of twenty shell rings (*Hókata*), no more, and no less, to the proprietor of the coconuts. A man once took advantage of the owner of a certain coconut grove being away, to go over, with his wives, and rob the entire grove of several thousand nuts; all that he paid the proprietor, however, in *hope* compensation, was the twenty rings, which of course by no means covered the cost of his depredation.

The removal of a *hope* is the occasion (in the last district) for a small feast.

Names.

I have found that the New Georgia natives, particularly those who have had little contact with white people, are shy about telling one their personal names. In any case few of them care to say it out in a loud voice, and it is always best to ask the name of a man from some one else standing near. I have tried this repeatedly, to establish my opinion on the subject, and have no doubt that there is some "superstition" regarding it, though I was never able to discover the origin.

I will quote one very marked case of a lad that we had with us living in the camp, doing odd jobs, and teaching us language etc., of whom, when he first came to us, when I demanded his name, he, after much half-ashamed hesitation, said it was *Ndóngondógona*, and by that name (usually shortened to the second half) he went among us for three weeks or more. We had never noticed that the other natives named him otherwise, until one day I heard him answer to the name of *Kúmiti*, being thus hailed by another lad; and on inquiry, I discovered that this was his real name, while the other was purely fictitious. Later on still, I discovered that *Ndóngondógona* meant loin-cloth, and then fully appreciated the shouts of derision that poor *Kúmiti* had to undergo, when I then told the other natives that that was the name he had given us as his own. I suppose we had upset him so much at the time that this was the first that had occurred to him to give us.

Evil Eye.

The Evil Eye is strongly believed in; and is, I am told, one of the most frequent causes of fightings and head-huntings.

During part of the survey our camp, for about three weeks, was in the village of Bili. On our first arrival at the spot, a short time before we came to camp there, we had found the place full of people: it was now, on our second visit, absolutely deserted.

The plantation whence they got their food had been allowed to fall into a jungle, the houses were left exactly as they had been slept in the night before the sudden exodus, but otherwise, except that the daily showers had washed the paths a bit cleaner than usual, there was no change in the appearance of the place. On making inquiries at the neighbouring village of Totelavi—on an islet not more than half-a-mile distant—we discovered that about two months previously the chief, one Ngetu, had died, and that, in consequence, the whole of the inhabitants had cleared out, and gone to live elsewhere. On pressing our informant for a reason, he said that whenever the chief of a place died the people of his village went away to live somewhere else. Subsequently I was assured by Mr. Wickham, a trader of long and good standing in New Georgia, that this was really often the case, and that he knew of several villages which had been thus deserted on the death of the chief. (It does not *always* occur, however, for I know of one instance in the adjoining village of Peava where the chief, Rákato, had died and no change was made.) We heard afterwards that there was a special reason for the desertion of Bili, which was that as two or three old people had died somewhat rapidly one after the other, and finally Ngetu, the chief, an elderly man, had done the same, it was declared he had succumbed to the effects of the Evil Eye; and further, that the wife of a man of Peava (a brother of the chief Rákato) had cast it on Ngetu. The inhabitants accordingly deserted the place, while some of the younger men “laid” for the woman who had evil-eyed their chief, and eventually succeeded in murdering her. A fight between the two places was thus confidently expected, which I have a shrewd suspicion our presence in the vicinity alone prevented. The unhappy widower took refuge with Mr. Wickham on board his trading ketch, until the troubles should be over, and stayed there for more than two months.

At the end of that time we went and camped in the deserted village, and in some way, it seems, exorcised the “*debbledabbleums*” who otherwise were occupying the place, for on Mr. Wickham’s return towards the close of our season, still with the widower of

the evil-eyed lady on board, some old Bili folk went off from Totelavi to the ketch, assured him of his safety, and announced that on our departure they intended to go back again to live in the place; and as far as I know the place is now again inhabited.

Hope Districts.

The summit of Vonggi, a highly remarkable peak which stood up 1,600 feet like a huge thumb, was considered *hope*, or sacred. I was informed that a large fish and a gigantic clam shell lived on the top, who would kill an intruder. The summit of Ivorai, another prominent hill in the Ngarási district, where our officers made a trigonometrical station, was also sacred; there was a large ring of big stones surrounding the summit, with every appearance of great age, inside of which none of the natives could be induced to go. There was a similar building on the sharp and prominent summit of Márovo Island, also *hope*, and forbidden to be trodden by natives.

Kicha, a small island off the coast, the last of the New Georgian group to the south-east, is also sacred, and no woman is allowed to land on it. A *hope* called Mateava lives on it, but what his functions were I could not learn.

There was just off the coast, near Munggeri, a small islet called Olowotu, which I was surprised to find, on landing upon it, to be altogether artificial. It was entirely built up of large coral stones on the flat fringing reef surrounding the shore, to which I found traces of its having been once joined by a causeway, perhaps 30 yards long. The islet was roughly rectangular and at the shore side of it a sort of square, heavily built arch had been erected. It was just possible to walk beneath the strong beams of wood that supported the "masonry," fully 4 feet deep, that formed the crown of the arch. I climbed on to the top, and there found several carved figures in coral stone, representing human heads *manggota*, and *mbelema* (frigate-birds), all about life size, but impossible to remove without discovery from the natives. There were also large numbers of both *éringi* and *hókata*—the shell rings before described—with old tomahawk heads, and so forth. A few bushes grew on the lower part of this strange place, and one small coconut tree, to which I was intending to affix a surveying mark, but that Raku Vingguchu, the King of Munggeri, besought me not to, as it was *nusu hope ngeténa*, "a very sacred island," so I did not again so much as land on it.

A somewhat similar place, though not so elaborate, occurred on the sea-side of the barrier chain of islands and islets surrounding this part of the coast. Several altar-like erections

were built out on a slightly projecting coral promontory, and were full of human skulls, rings, tomahawk heads—broken and rusty—and old pipes. We collected about fifteen skulls (twelve of them are now in the hands of Dr. Garson) and several rings, without detection. There is a similar sacred place off the Ngarási district.

There are also whole large bush districts, beside the mountaintops before mentioned, which are, by general consent, considered *hope*, or tabooed; and under no consideration will a native walk there. How they have all become so, and for how long the taboo lasts I cannot say; but I can give one instance which came under my notice of a small islet in a rather remote part of the lagoon, which, while all the adjoining islets were covered with bush, was entirely grown with coconuts. I had several natives with me in the boat at the time I first saw it, and as I desired to land on it, to erect a surveying mark, I steamed over towards it. Immediately there was an outcry that I could not land there, that it was *hope*, and so forth. However, as it was exceedingly important to the survey to do so, and as I said that only white people should land, and that black men's *hopes* could not affect us, they conceded so far as to allow us to go by ourselves. I found the islet in the wildest confusion: the older coconut trees had cast down their nuts, year after year, unheeded, and had formed a soil, these shells and husks only, at least 3 feet deep, in the midst of which a perfect jungle of sapling coconut trees was thrusting upward. I set up my mark on a small outstanding rock on one side of the islet, having cleared away about fifty old and new copra nuts to arrive at the hard coral beneath, and went back to the boat. On inquiry I then learnt that some twelve years before (as far as I could afterwards judge by asking some white residents of Rubiana), the Rubiana "boys," out on a head-hunting expedition, had arrived at this islet, on which there then was a small village, and had taken every head in the place. A *hope* was accordingly pronounced not only on the islet, but on all the adjoining coast for a mile or so on either side, and this had been up to now rigidly maintained. I had occasion to land in this vicinity some time after, up the estuary of a mountain torrent which came down hereabouts—where we had the good fortune to find some specimens of a rare pandanus, much sought after by the Kew Gardens authorities—and to climb a hill to make a trigonometrical station on its summit, all being within the proscribed limits. That night I was bitten by a centipede, as I lay on my mattress on the ground in the tent. For over thirty-six hours I had endured a torture comparable to nothing in my experiences previous or subsequent; when, feeling slightly

better, but still in great pain, I went out to try and do some survey work on the adjacent coast. While thus engaged it came on to rain, and being near a village I went into the house of a man I knew slightly until the weather should moderate. In conversation I told him that I had been bitten by a centipede, whereon he seemed much amused, and told me that I had probably given offence to some one, who had sent the centipede at night to bite me—that that was what black men thought of such occurrences. When, however, he heard that I had landed at Veriverichi, the *hope* district, he thought it more probably had reference to that. I then asked him if he knew of anything that would cure me, and he said that he knew of something which grew in the bush that would soon do so, and that he would go and get it. I was much disappointed when he returned with only two small pieces of grass, which he proceeded to tie round my left ankle—near which I had been bitten—saying that the pain would soon "finish." As a matter of fact it was then dying away, and when my friend came next morning, Sunday, to the camp and found me up and about again, only slightly lame, he was quite sure his charm had cured me. He then told me that he was a *tinoni hope*, or sacred man; and I doubt if I should have otherwise found that out, as they are very shy of telling one of such qualifications.

The *Tinoni Hope* of Munggeri also revealed himself to me only under extreme circumstances. Munggeri was the largest village in our neighbourhood, and possessed a fine war canoe, in an unusually big *eruo*, or canoe-house. One day I found inside this canoe an exceedingly large and well carved toma-



"OLOWOTU," SACRED ISL.

hawk, which I promptly began to bargain for with my friend Raku, who was king of the place. I had nearly tempted him into surrender by three *kalo* (whale's teeth), when a little old white-haired man dashed over at me from the other side of the house, seized the tomahawk out of my hands, in great excitement, and declared that it was *Hope Ngetena*, "very sacred," did not belong to the king to sell, but to the whole village; that he was the sacred man, and it was his business to take care of it, and then disappeared in a great state of mind to hide it more securely. Raku laughed a bit foolishly, but quite gave in, and the other men standing round did the same.

Amulets.

Almost every man wears an amulet round his neck; little children have sometimes two or three. They are called *Hinili*, and usually take the form of a small ring of shell, dentated along a considerable part of the circumference, a single or double frigate-bird (*mbelema*) fretted in pearl shell, or a lunette of the same material usually engraved with frigate-birds, etc., combinations also of a circle with fretted out frigate-birds within, are common.



These are supposed to invite the protection of Ponda, especially when passing *hope* places in a canoe.

Another form is that of a long spiral shell, ground flat on two sides, thus exhibiting the whorl and successive chambers of the helix. This is, besides, attached to canoes.

Morals and Customs.

There is, I suppose, some sense of morality, as we understand it, in these savages, though what there is must be inherent in each individual, as there appears to be no generally recognised standard of what should be considered "right" or "wrong;" nor any law but revenge.

Adultery, stealing, and murder are privately dealt with between the offended and the offender; no one else, chief or otherwise, would dream of interfering, nor is there even a village tribunal. However, they have, of course, their notions of what a man, morally considered, should be, and discriminate easily, and by similar process of reasoning to our own, between "good fella man," and "bad fella man"—especially among white traders. Infanticide is not considered wrong, or, at least, no one will revenge it. If a mother bear a daughter, and daughters are not desired in the village, it is killed without a pang of remorse, and the same is done on the very rare occasion of twins; one is always killed, preferably the girl, if there be one. Cheating in trade is very common; I fancy they

recognise it is not the proper thing to do, but all they say is, "the more fool you not to find out I was cheating." I think it probable that they obtained this system from the white traders.

The following ideas obtain with regard to chastity in women before marriage. There is no sense whatever among them that this is a virtue, or even desirable in a girl; women and men, as soon as they are of age to do so, may have connection promiscuously, just as they desire. This is the rule from the chief's daughter downwards, the man making a payment of ten sticks of tobacco, a fathom of calico, some beads, pipes, or matches, or a shell ring to the parents of the girl; though the violation of a virgin commands a larger sum. The act must always take place in the bush; never in a house, which are reserved, *or hope*, to married people only. On marriage the woman is *hope*, and in the Eastern district I was told that sickness and death would be the result of interfering with her. I fancy adultery is not very common. At Rubiana, however (according to Mr. Kelly), if the guilt of a wife is established, she is killed with a tomahawk; to the man, whether married or single, no stain attaches. On conviction, she is given a chance to escape to the bush, and, as she does so she is fallen upon by the men of the place—her lover even assisting—and her head cloven. The same is done in Rubiana if a woman is discovered to have syphilis.

Should an unmarried girl bear a child, she generally does away with it in the bush, where she goes to hide for the occasion, and nothing more is said about it. Occasionally they keep them alive. I know of one grown-up bastard, whom no one looked after, and who lived as a sort of slave.

The New Georgians have the same ideas of what is decent with regard to certain acts and exposures that we ourselves have; and they are sufficiently advanced to build small retiring places out on piles over the salt water; but their conversation, judging by what they will say in English before a white woman, no less than by their own usual camp-fire talk, is quite unlicensed.

Circumcision.

Circumcision is, I believe, not practised in New Georgia, but the natives are so noticeably decent in their costume as compared with, for instance, some of the New Hebrideans, or even the natives of the adjoining island of Malanta, in the Solomou group, that it has been difficult to observe whether its non-practice is universal.

Government.

At the head of each village is a "king" or chief, who may command, if he wishes to enforce it, a certain amount of

obedience and respect. The office is hereditary, the successor being often nominated by the present holder; primogeniture not being necessarily the rule, and a chief having children usually by two or more wives. The son who is to succeed is brought up to consider himself a "cut above" the other people. In war time the chief leads, but I believe the only men he can *compel* to follow him are his slaves; the others come if they wish it. There are also *tinoni hope*, or sacred men, whose whole power I have not been able to determine: a few facts concerning them have been already mentioned.

Music.

The New Georgian natives are notably fond of music. Their musical instruments are the flute, mouth fiddle, jew's harp (of native as well as foreign manufacture), and pan pipes. They would almost rather have a trade jew's harp, than three tobacco pipes, as a present; and would sit listening with evident pleasure to a violin, autoharp, and penny whistle, which used to be played of an evening in our camp. They appear to possess nothing resembling a drum, and the only really discordant music they produce is from a conch shell with a hole in the side; and this but rarely.

The flute is a piece of bamboo with both ends closed at a joint, and is about 2 feet 6 inches long. It has altogether only four holes; one 4 or 5 inches from one end, for the mouth, another about 6 inches farther down, for the first finger of the left hand, one in the diaphragm at the end remote from the



BOY PLAYING FLUTE. (*Feiva*).

mouth, and one in the side of the flute near that end, stopped by the thumb and forefinger of the right hand respectively.

The flute has therefore a very limited scale, but its tone is soft and sweet. It is called *Ivivu*, and is largely used at funeral feasts.

The native jew's harp (*mike ivivu*) is a pointed slip of bamboo, 6 inches long, which has a narrow sharp-pointed tongue cut down the centre of it. A fine piece of string is passed round the lower and wider part of the tongue; this, on being jerked, causes the tongue to vibrate, while the pointed end of the jew's harp is held pressed against the teeth after the same fashion as our own instrument. The *mike ivivu* has a pleasant low note. I cannot say whether it is an adaptation of our jew's harp, or of original native invention. (*Vid.* Plate XXXV.)

The mouth-fiddle is a piece of rounded stick, 6 or 8 inches long, slightly bent, and carrying two strings. One end of the stick is held between the teeth, and the strings are vibrated with the unused end of one of the strings, or a small piece of wood, while the left hand does the fingering. The strings are tuned about one tone apart, and only one of them is stopped; both are invariably struck together, generally giving the effect, pretty nearly, of a triplet.

The flute and the jew's harp are nearly always ornamented, but in no particular style of pattern.

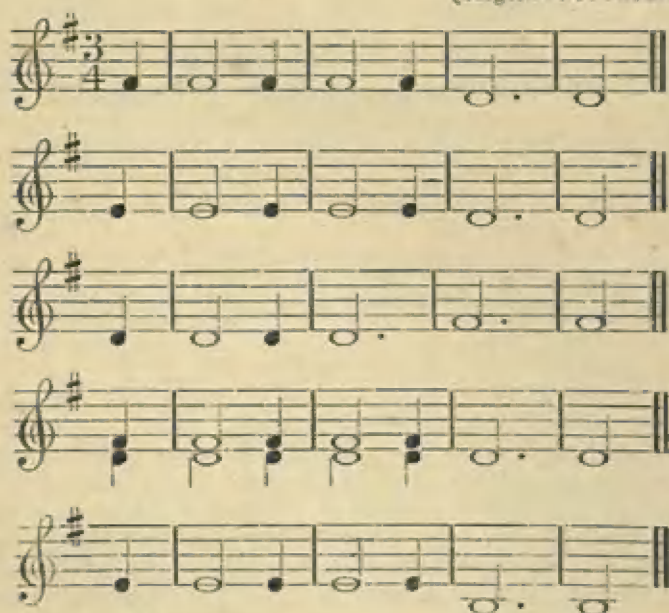
Vocal music.—The men's singing voices are, speaking generally, high baritone; sometimes ascending to a nasal falsetto, but, on the whole, soft. They have the habit of swelling and diminishing the note towards the middle and end of each line of a song. The only times we heard singing by a company of men were during dances with shields and spears. There was no accompaniment of hand-clapping or drumming, and the general tone of the song was that of a dirge, rather than a song of battle. I append the words and music (kindly scored for me by Surgeon V. Gunson Thorpe, R.N.), exactly as rendered by them, remarking that where double notes appear they were thus sung in unfailling harmony. Another song was led by one singer, the remainder joining, as it were, in the chorus, but I was not able to procure the tune or words. I could get no translation of the words here given, and am not sufficiently acquainted with the language to give one of my own. The natives used commonly to say that the words of their songs were "*gammon*," which is Islands English for "nonsense" or "chaff."

During our second season I was able to obtain the words of several New Georgian songs, and of one or two airs. One of these songs, named "*Sitima Belapura*"—(Balfour's steamer, *i.e.*,

H.M.S. "Penguin"), was written especially for us, and recounted the voyage of the ship through various oceans, past many (named) passages, reefs, islets, and shoals, and finished with a fictitious incident in connection with Keripi (Griffith), a trader of the locality. My collection of songs is in the hands of Mr. Ray, together with a vocabulary of words and sentences in two or three dialects of New Georgia, chiefly compiled by my colleague, Lieutenant Weigall.

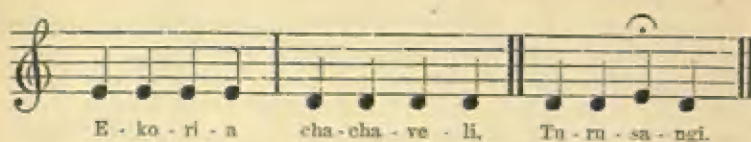
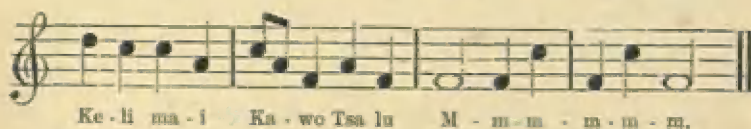
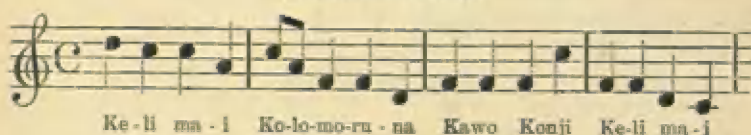
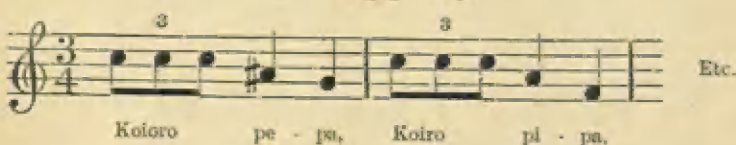
New Georgian War Dance.

(Surgeon V. G. THORPE.)



Another form of the same.



*A favourite song.**Jew's Harp Song.**Archæology.*

As usual in Oceania, any relics of a previous race are either extinct, or almost impossible to discover. There are, so far as I know, no monolithic or other monuments. The stone implements have all been sold to traders, or other ignorant people, or else thrown away as useless by the natives themselves, so I regret being unable to show a single specimen, and do not even know whether the stone axe-heads, said to have been used originally, were imported from other islands or of home manufacture, or even whether of greenstone, or clam shell.

War and Weapons.

War in New Georgia is pretty well confined to head-hunting expeditions in canoes, undertaken with the sole object of acquiring skulls, and always takes the form of a surprise; the dense bush and want of knowledge of tracks precludes fighting on land to any large extent. The western natives, those of Rubiana and of Rendova Island, are the most warlike and ruthless, and, between them, have completely wiped out the inhabitants of the large adjacent islands of Wana wana, Kiso,

Tetipari, and, with the exception of a small and wretched remnant, those of Kulambangara also. They fell upon the once populous island of Márovo within quite recent years (since 1885, I believe), and reduced the number of inhabitants from about five hundred to considerably less than one hundred. There is a high steep hill at one end of Márovo, and the Rubiana boys, who seemed to have sustained a repulse during part of the engagement, retreated up the slope, and entrenched themselves near the top with stone walls (of which I have seen the remains), leaving access to the summit possible at one small gap only, easily defended by a few men, until they felt themselves sufficiently able to continue the assault.

The eastern natives (now a very small remnant) in their turn have, as their head-hunting field, the large mountainous district known as Vángunu, the natives of which are more savage and uncivilised than their neighbours, and are, on account of these attacks, obliged to live back in the heart of the ancient crater of their land.

When Commander Davis, in H.M.S. "Royalist," burnt and sacked Rubiana in 1891, the beach was absolutely littered with skulls, the stored and cherished of years; and ever since that date Ingova, the king, has striven to replenish the stock. During the latter end of our first season in New Georgia, accordingly, he went away with all his war canoes on a head-hunting expedition to Ysabel Island—New Georgia being comparatively "played out"—to a village called Bombatana, part of the journey being out of sight of land. He took twenty *tómako* (war canoes) containing about five hundred men, and two good-sized English built boats, containing between three hundred and four hundred rifles, and nine thousand rounds of ammunition. He always leads from the centre, his war canoes flanking out in two wings on either side, and the English built boats close behind him. He intended to attack by strategy, drawing the enemy out of their houses by sending on a racing canoe as a bait to lure them afloat; then falling on such of them as ventured out, in his big boats, at the same time landing a large party at a little distance down the coast to attack the village from the landward side. He returned from this expedition on the day of our departure for Sydney, and we heard he had been quite successful, and taken many heads. Mr. Kelly is my informant for the above details.

On the return of the victors, I was also informed, the heads were all decorated, and placed in a prominent position round the leading canoe; and to the sound of conch-shell brayings, the boats proceeded up the lagoon, the rowers indulging in "fancy" paddling, as they passed the various villages.

I can give, I regret to say, no information at present as to the reasons that cause the desire for skulls, the obtaining of which appears to be almost the only purpose of these expeditions. I am informed that slaves are kept chiefly for their heads, which are demanded whenever any occasion necessitates them, such as the death of the owner; and are then taken suddenly and unexpectedly; the victim being first killed by a tomahawk from an ambush. He has no previous warning; so it is, so far, merciful.

Such as still remain of weapons in New Georgia exhibit a very great want of skill in workmanship, in comparison with those of adjacent islands, such as Bougainville or Ysabel. The spears are of light make, and are either altogether of wood, ornamented with yellow "whippings" of some rattan-like material, and red calico, or, more usually, tipped with the serrated sting of the *tape*, or sting ray. Bows and arrows were in use, but I have never been able to procure a genuine fighting one, or arrows either.

The only arrows I saw had entirely undecorated, sharpened hard wood points, in a bamboo grass shaft, and were notched, though unfeathered. I am not at all sure that they were intended for fighting.

They appear to have had no clubs, and the only weapon now to be seen in canoes, when going even for short distances, is a tomahawk, consisting of a trade axe head on a longish handle, sometimes ornamented with a sort of button at the end, but as often without. Occasionally these tomahawk handles are



MAN POISING SPEAR.

very well carved with figures of crocodile, shark, *totoishu*, and so on, inlaid with mother-of-pearl and highly coloured. Shields (described under "Basketwork") are made in one or two villages, and are a valuable possession. These are made not only of basketwork, but also of wood ornamented with black, white, and red patterns; perhaps these are only for sale to white people, or for dancing purposes. They are used more to parry a blow with than as a steady protection to the whole body, of which indeed they only actually cover a small portion.

Fishing.

The natives are very skilful at fishing; which is generally done with rod, line, and hook, though nets for turtle and larger kinds of fishes, with bows, arrows, and spears, are also employed. The hooks are of many sizes, and are mostly made of a piece of mother-of-pearl shell cut to resemble a small fish, to the base of which is attached a strong sharp hook of turtle shell, curving slightly inward, but unbarbed. A couple of tags of coloured beads are also generally added, and no bait is used. The smaller fish and fry are taken with a tiny, exquisitely shaped hook of turtle shell, or mother-of-pearl, on an almost invisible line, made from some flax-like plant. The fisherman wades into the sandy shallows, rod in one hand, basket in the other, and in a very short time makes a large catch. Whether the fish are only "jigged," or whether, attracted by the resemblance of the hook to a little worm, they are properly hooked, I cannot say; but when fishing in the middle of a large shoal of small fry, the action of hooking and dropping a fish into the basket becomes so swift and regular as to appear almost mechanical.

Kura.—There is a fine large fish called *makusi*—excellent eating—which is caught on moonlight nights at the entrances to the lagoon between the barrier islands in the deep water. These are caught either off the canoes by rod and line, or oftener, with *kura*, from frameworks built out to overhang the blue water outside the steep wall of the reef. The *kura* is a conical basket about 2 feet deep made of some sort of rattan, netted with a 4-inch mesh, which has a rounded volcanic stone secured at the bottom—the apex of the cone—to act as a sinker. "A running line," also of rattan, passes through the upper row of netting. It is baited with cray-fish or other sort of fish, and a piece of fishing line being made fast to the end of the "running line," it is thrown over. I believe it does not actually lie on the bottom, but the weight of the sinker when the *kura* is in the water, is not sufficient to tauten the running line. The upper end of the line may be held in the hand, but it is usually lightly made fast to a small supple twig cut in the bush, the end

of which is stuck in a cranny in the reef, so that it stands up like a fishing rod, with the line on the end of it. When a fish takes the bait, the twig bends violently, and the fisherman, watching for this signal, immediately seizes the line, gives a good sharp tug, hauls up rapidly, and if he is at all skilful, a *makasi* will be found caught behind the gills by the "running line," with its head fast in the bottom of the *kura*, close by the bait.

The natives are very keen-eyed at discovering a shoal of fish, and now that dynamite is available, are both daring and successful in using this dangerous explosive for catching them wholesale; however, it is not uncommon to meet men minus an arm, or with other injuries, from the too incautious use of *banabuna*, as they term it. As the fish usually sink when dynamited, the diving powers of the natives come then into useful prominence.

Agriculture.

Taro is the principal crop raised; the soil in many places being highly favourable to its growth. Patches are cleared in the bush by axe and fire, and after a very short period of use, (one or two crops) are allowed to lie fallow; when, in a remarkably brief time, they become more densely bushed than the surrounding untouched forest, and are thus easily recognised when passing through it. The plants are neatly placed in drill lines, and the small pits, necessary for the good growth of taro, are dug round each plant when it has got to a certain size. I have seen patches of as much as two and three acres thus under cultivation. There are no native implements except a pointed stick. Yams are scarcely grown, as they do badly, and are very small when produced; but the sweet potato, "Cape Marsh potato" — a most excellent vegetable (something resembling the appearance of the sweet potato when growing, but far better eating), papaw, banana, plantain, sugarcane, and *piper betel* are all in cultivation, the root crops yielding, as a rule, two harvests in the year.

There is no necessity for irrigation, as it rains on the average upon every other day; and there is no regular harvest time, the produce being collected by men or women as required. I have not heard of any religious ceremony in connection with agriculture, nor any legends concerning its introduction, though they may exist.

Slavery.

Slavery certainly exists, but it is in so mild a form that it is scarcely possible to detect master from man. I have never been able to elicit any facts concerning its introduction, propagation, or limits, or even if (in so many words) it existed at all.

Wherever in these notes I have mentioned slaves, in connection with fighting, taking heads, and so on, it has all been indirect information.

Burials.

At a man's death, the body is buried in a sitting attitude in the ground, the head being left exposed, surrounded with four pieces of wood placed like a collar, for five days (I was told by one man), or until the ants have removed the flesh. The head is then taken, scrubbed clean with sand and salt water, and bleached in the sun until it is white.

A man from another district (Ngarási) told me that, when dead, a man was painted with the usual white limed lines across the brows, and along the jaw bones—called *mbúsapánderi*—and his hair whitened. After a feast, and a cry over him, he was put in the ground; not sitting, but lying on the back, knees bent, arms bent at elbows, with hands hanging over the chest. When the skull is cleaned, it is placed on the top of a stout post, on a sort of perch, and covered up with thatching. Two small triangular holes are then cut in this thatch, opposite the eye-sockets of the enclosed skull, and near by it are placed pipes, tobacco, rings, and food. At the conclusion of a hundred days the skull is finally removed, and stored with those of the former chiefs, or household lords, either all together in a little special ark, called a *leba*, or in separate house-shaped boxes, like diminutive dog-kennels; or sometimes in square recesses cut in an adjacent rock. For the rest, when the flesh is completely gone off the bones, they are gathered together, cleaned, and buried either in the ground, or sometimes in a cairn of stones, like an altar, about which various old "properties" are disposed. Kárávo, the King of Ngarási, departed from the usual burial custom by laying his brother out, *unburied*, on a rocky islet of the sea coast, until the flesh should have gone from the bones. A sort of framework of wood surrounded the body.

During the hundred days all the property of the dead man is sacred; his coconuts, his canoe, his house—no one may touch them any more than if he were alive—and his dog, if he had one, is allowed to go and starve in the bush; no one will care for it.

At one place I saw the skull, instead of being placed in a box, was put in the head of a large more than life-sized figure of a man carved in wood—intended to represent the deceased—and similar statues of his wife and child stood alongside of it.

Islands off the coast are almost invariably chosen as places of sepulture. A grave, on one island where I was camped for some time, consisted of a square heap of stones, about 3 feet

high, containing the bones of the deceased; a small, very neatly built house, or hut, containing his head (a ring hung outside the door); and a little circular garden surrounded with stones, in which grew a young dracœna plant, and one or two crotons. All three were placed, closely adjacent, on a specially levelled plot, built up with stones, and having a slight embankment wall on one side.

I believe it is customary to kill a slave or slaves on the death of a master, and in fact they are kept principally for this reason. The death is not cruel, as the tomahawk falls on them unawares, but unfortunately I can give no details of this custom.

Astronomy.

There are names for the sun, moon, and stars generally. I collected from one man the particular names for Orion, the Centaurs, Venus, the Pleiades, and one or two others, but am unable to give them, having unfortunately mislaid the paper on which I wrote them. Daylight is divided by the height of the sun; the length of day varies but little throughout the year, at a position so near the equator, and the almost invariable twelve hours of daylight are divided into seven parts, regulated by the position of the sun. Time, however, is reckoned not by days, but by nights. There are special names also for the various phases of the moon. They do not seem to calculate long periods of time at all—one full moon to another is as far as they usually go; and crops come so often and irregularly, that it is impossible to reckon by that standard. Temperature varies so little that a division of time by it has not occurred to them; and hurricanes never reach their islands to mark a period for them either.

These are names for the following winds:—North (*Tolaoru*), North-East (*Hecha*), East (*Ngálisu*), North-West (*Tiva Lúggutu*), West (*Mohu*); all Southerly winds are called *Tua Vela*, and the night wind (*Kolomuru*). Of these *Hecha* (the North-East wind)=blind; *Ngálisu* (East)=knife; *Tiva Lúggutu* (North-West)=name of the district whence it blows; *Tiva*, signifying a mast, or anything upright; *Mohu* (West)=Wet; *Kolomuru* perhaps means "ocean seeking"; but of *Tolaoru*, and *Tuavela* I can give no etymology.

Property.

Property seems to be well recognised: every one of the myriad islets of the great eastern lagoon has its understood owner, no matter if coconuts be growing there or not. Groves of coconut trees are well protected by *hopes*, as before described, as are also taro patches. Hunting rights over opossums on a

man's property are also protected by *hopes*. Property descends from father to son, and if there be more than one, it is divided (equally) between them. If there be no son, the daughter succeeds; and if no child at all, a nephew (I presume either a brother's or sister's child) inherits.

If there be no near relative, it is arranged by the village to whom the property is to belong. A wife may succeed to her late husband's property—I presume if there are no children.

Trade.

The New Georgian natives are keen and close bargainers, and are fully the equal of the white man in cheating at trade. Among themselves, no doubt, there are exact standards of value, one village producing taro, while another makes shields, and so interchange is effected. Shell rings (*hókata*) are a great medium of exchange; and, in dealing with white folk, whales' teeth, shell rings, and tobacco, may be taken to approximate pounds, shillings, and pence; the current value for these in our money is roughly: one whale's tooth = £1, one *hókata* = about 1s. 3d., a stick of tobacco = $\frac{1}{4}d$.

Coconuts and copra are the articles in biggest sale to the white traders: "ten on a string" is the rule—that is ten interiors of coconuts—and two strings are usually tied together. The value varies very much, from one to three sticks of tobacco per string. Pearl shell and turtle shell are also articles of trade.

The desire for whales' teeth (called in the native tongue *kalo*) is one of their most remarkable distinguishing points, as they do not wear them as ornaments. However originated, a good whale's tooth is now worth a very large amount of copra, and may be seen with other cherished possessions on a man's grave. The goodness of a tooth is calculated as much by weight as by outward length. Many teeth are pointed, and hollow from the root (like the "kick" of a bottle) for some distance up. These are the least valuable; and an unfiled tooth also is much preferred to one that has been polished, and made to look smooth and white.

They seem to make no use of their wealth however; the mere fact of possession is sufficient, and *kalo*, shell rings, calico, clothes—any article of European clothing is a great prize—are simply stored up, and scarcely worn or used at all. Neither is the desire for wealth very strong, certainly not strong enough to overcome laziness, except in rare instances.

Division of Labour.—All classes, both men and women, labour, if the very slight tending of gardens necessary to grow food can be called labour. In the eastern part, the treatment

of women is notably good. I have but rarely seen them at work. Everybody is a fisherman, and a maker of copra. Such a trade as canoe maker seems more distinct, and is generally combined with that of wood carver; but I fancy that all have some idea of the art.

Credit.—I am not aware whether the natives give and take credit among themselves; but they often, and, I believe, usually, take it from, and give it to white traders. I am told that they are as loath to pay their obligations as any white man.

Measures and Weights.—There seems to be no idea of sale by weight, the eye gauges the value of, for instance, a lot of taro; and measure, such as of calico, is by the fathom or *ngava*—the human span of arms—perhaps this has been introduced by traders. Greater lengths, such as of a house, is by paces, each man being his own standard, by stretching out as far as he can.

Marital Relations.

I never witnessed any marriage ceremonies, but probably they exist in some form. Bera, the eastern chief, told me that if a man wishes to marry any girl, he goes to the father's hut with a basket of food, as a present, to open proceedings. If this first talk seems favourable, he brings, when no one is looking, several large, roughly made, shell bracelets, quite useless for wear, and leaves them on the ground at the door of the hut. He then goes away. Next day he comes again and if his rings are still lying there he is rejected, but if taken inside he is accepted. The marriage then takes place, but Bera said there is no feast or ceremony. The rings thus obtained are broken at their owner's death into two pieces, and placed on his grave.

Another account, probably better, as it was delivered to me in the native dialect, during our second year, is as follows:—If a man wishes to marry a chief's daughter, he must bring thirty or forty articles, of which *kalo* (whales' teeth) and *lave* (shields) must form some part; but if he is after an ordinary girl, ten articles are sufficient. These he lays at the door of her father's house. He then sits down opposite them, with the girl's father and mother on the other side, and, the girl being sent away, "talk" (*i.e.*, haggling) begins. If the would-be husband is accepted, the present is taken and the girl handed over. She cries (probably perfunctorily), but is chaffed by her father and mother until she agrees to be consoled. The fathers and mothers of the happy pair both make feasts, and everybody in their respective villages eat. If a man and a girl fall in love with one another, and the man is poor, and cannot afford to pay, they go away and hide together in the bush, until the parents cease to be offended, when they return to society, a

married couple. (*Note*.—There must be some restriction—if only that of shame—upon this, for under such circumstances no one would go to the expense of making presents when he could be married for nothing.)

If a man marries a girl who has had an "illegitimate" child, he accepts and adopts the boy as his own.

A widow may marry again if she wish, but not if the mother of her former husband is alive.

A widower may marry again, also, provided that his late wife's mother is not alive.

Child-birth.—When a woman is to be confined, she goes away into the bush with some other (and older) woman, and presumably, a few men, who build two houses, one for her, and one for the old woman. After the birth, the mother remains twenty-five days in the bush, and then returns to the village, to her own house, a feast being held to celebrate the occasion. The child is given its name by both father and mother, and retains the same one throughout life. It is usually that of some fish, bird, or natural object, but never the same as that of the father.

After the return of the mother with the twenty-five days infant, she sleeps with the child, in a separate bed from her husband, until the baby's teeth have come, or until it is beginning to talk, when cohabitation again begins. The child is suckled until it is able to walk about easily, it is then tried with a piece of fish (*malokai* ? name doubtful), and if it can eat and digest it, suckling is stopped, but if not, it is continued until the fish can be eaten.

There is no feast or celebration at the entrance to puberty of either a boy or a girl.

The wife apparently enters into the family of her husband on marriage, for the children belong to the father's tribe. Polygamy is permitted, but I never saw a man with more than two wives, and by far the most usual was one wife only. All the unmarried girls being available, when desired, both for married or single men, concubinage does not exist. I understand that the wives live together under one roof, but if one is preferred before the other I cannot say. I deduce that divorce cannot exist, since a wife is promptly tomahawked if she misbehave herself; the husband may do as he please, and it has not yet occurred to them that cruelty should be legal cause of separation.

Games—Amusements.

The only game I witnessed was called *Warahinduki*, and is played as follows, by either boys or men, but usually by lads of seventeen or eighteen.

Two players seat themselves on the ground, about six paces apart, placing in front of them, in line towards the opponent, two cylindrical tin trade matchboxes, about one foot apart.

There is a very common and beautiful sea-coast tree that, after producing deliciously scented white blossoms, bears a spherical nut about an inch in diameter. Each player provides himself with a number of these, and the scorers sitting by use others to score with.

The players bowl these nuts alternately at their opponents' match-boxes in order to upset them; the scoring only takes place after the return ball from the opposite side, and is as follows:—

(1.)

A bowls to B, and upsets the front box :	} A scores 1.
B bowls back and hits neither of A's.	

(2.)

A bowls to B, and upsets the hinder box :	} A scores 2.
B bowls back and hits neither of A's.	

(3.)

A bowls to B, and upsets both boxes :	} A scores 5.
B bowls back and upsets neither of A's.	

(4.)

A bowls to B, and upsets the front box :	} B scores 1.
B bowls back and upsets A's hinder box.	

(5.)

A bowls to B, and upsets the hinder box :	} A scores 1.
B bowls back and upsets A's front box.	

(6.)

A bowls to B, and upsets both boxes :	} A scores 4.
B bowls back and upsets A's front box.	
B bowls back and upsets A's hinder box.		A scores 3.

If, in any case, B bowls back to A, and upsets the same box or boxes that A did, there is no score.

The game is sixteen points, and the winner of a game remains playing, one of the other boys taking the loser's place, until he himself is defeated. With some players a hit only of

the matchbox counts as an "upset"; but usually, the box must be properly bowled over.

Toys of pieces of coconut fronds are made for children. Three of these are a "whirligig," a "whistler," and a "frigate-bird," of which specimens have been sent to the Museum. The first is a little windmill which revolves when presented to the wind; the second an arrangement of coconut leaf which, when violently swung round in the air, gives a sound like a large locust humming; while the third is a rough representation of a bird balanced on the tip of a stick—as one balances forks on the edge of a tumbler—and gives the appearance of a *mbilema* (frigate-bird) sailing overhead.

I understand that canoe races take place, but I never saw one: racing canoes are specially built.

Dances.

We witnessed two dances, which were specially performed for us on board the "Penguin." One, of which I have given the words which accompanied it under the heading of "Music," was performed armed with shield and spear, the other with tomahawks. It gives but little idea of a war dance, either in tune or measure. About ten men formed in single file, a pace or so apart, holding spear over shoulder, shield in position and the whole body in a crouching attitude. As they sang the words of the song, they advanced with stealthy step, turning together the face and body alternately, and rhythmically, first to the right, then to the left, in time to the words of the song; thus the verse began with all turned to the right:—

"Peka, peka—turo" (all turn to left)
(back to right) "peka, peka—turo" (left again).

When it came to the second line, some of them sang notes in *harmony* with the air, and the verse was sung over and over, as the company slowly moved past, until all had gone by.

The other dance, with tomahawks, was more curious. A single line was formed as before, but the weapon, instead of being poised for a blow, was held sloped to the ground with the head downward; the acorn, usually carved at the butt end of the tomahawk, held at the lips; and at each slow forward step, all the men together made the sound "ff—ff" with the lips, blowing air out, strongly, as loud as they could, and so slowly passed by.

There is a third, a more active dance, with spear and shield only, in which the performer hops from foot to foot with body

crouched behind the shield; if without spear, the first finger of the right hand is placed on top of the shield, just where the eyes are glancing over. However I never saw more than one man doing it, so can give no details.

Communication.

The roads are simply a network of paths running through the dense bush, for the most part engineered on the well known method of following the crests of the ridges. I had no good opportunity of testing the power of making a track through the bush; but my impression is, that although extremely good at picking up and following a track they have already been by, they are not much better than anybody else in a new country.

Streams are bridged by a fallen tree where necessary, and wading impracticable.

Contact with White Races.

The only white people with whom the New Georgians have as yet come into contact are traders, and men-of-war's men. Considering all things, they have kept themselves "right end up" fairly well, and no sign of the decrease of the race from either of these causes is visible. At the same time, in the eastern parts, the number of the population has gone down with great rapidity: an old trader of twenty years' experience told me that in his recollection the numbers had terribly decreased. This to a large extent is probably due to head-hunting, which has, as already described, almost annihilated some villages, and driven the wretched remnant back into the bush; thus giving the appearance of an absolute depopulation, the usual white man seeing no more of the country than is visible from the sea. No doubt head-hunting has always been their custom; but it is probable that the advent of rifles, and especially of iron tomahawks, during the last forty or fifty years, has largely increased its fatal effects; so that where one man's head was taken in old times, three or more are taken nowadays.

Another factor has been the bombardings by men-of-war, which though they have not perhaps very materially decreased the actual numbers, yet, similarly to head-hunting, by driving the natives back into the hills, have given the appearance of depopulation along the coast. These bombardments, however, through being somewhat indiscriminate, have created a terror that will, when the islands come to be settled, be hard to eradicate.

On the whole, then, accepting the evidence of the old-established trader before mentioned (Mr. Wickham), the race

has most certainly diminished rapidly during the last ten or twenty years, the chief cause being head-hunting. Of the results of going to labour in Queensland, I am not prepared to speak, but I fancy that recruiting in New Georgia has never been very largely prosecuted; certainly no "labour ship" came near this group during our stay.

It is logical to suppose that unless some sort of government be started which will prevent head-hunting, especially now that we have proclaimed a protectorate over half the Solomon group, the races inhabiting New Georgia will gradually be exterminated. Except from a scientific point of view, I think one might be almost reconciled to this dispensation. The natives have their good points, certainly, but their bad are so much more conspicuous that the elimination of the race would be no great loss to the world. Worst of all their bad points almost, is their incredible and incurable laziness—the heritage of all Pacific races—the result, no doubt, of the extreme fertility of a land which causes them no occasion to work in order to live.

If cultivated by a more industrious and energetic people, these islands are sufficiently fertile to produce satisfactory crops of tea and rice besides, many other valuable articles of trade, such as coffee, timber, pearls, turtle-shell, and so on. No one knows what mineral wealth there may be. The sea teems with fish. There are no wild beasts, and the snakes, which are not numerous, are said to be all harmless.

A step in the direction of civilisation has lately been taken by the appointment, by the Fiji Government, of Mr. C. M. Woodford as a "Resident" with head-quarters (I believe) in the beautiful island of Guadalcanar; and a second has been made by the Melanesian Mission, which in 1895, having already performed civilising wonders in the adjacent island of Florida, sent a first detachment, under Dr. Welchman, to New Georgia. The white traders have, naturally enough, poured into the native ear, ever since they first established themselves in the group, stories—need one say hideously false—concerning the missionaries and their doings, calculated to inspire the utmost terror and repugnance, and designedly sufficient to prevent the natives from allowing, for one instant, the establishment among them of a worse set of foreigners than even the traders themselves; a set, moreover, who did not even bring with them the redeeming blessings of firearms and gin. Accordingly, on the arrival of the "Southern Cross" all the eastern natives promptly decamped into the bush, and not one single boy did the mission collect for their college in Florida.

As I had supplied the Bishop of Melanesia with a full account of the eastern district, its chief men, and my colleague's

(Lieut. Weigall) dictionary of the language as far as we knew it; and as, while we were living in their midst, we had industriously attempted to combat the stories concerning the missionaries the natives had already received, this must be considered a most disheartening failure.

I hear a second attempt is to be made this year (1896), and I hope it will be more successful.



PREPARED HEAD. RUBIANA, NEW GEORGIA.



"KUMITI" MAKING FIBER. (See page 376.)





"PLAYING THE *Mike Ieiu*." (See page 306.)

— 1017 —



TWO NATIVES OF NEW GEORGIA.

ANNUAL GENERAL MEETING.

JANUARY 26TH, 1897.

E. W. BRABROOK, Esq., F.S.A., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The CHAIRMAN declared the ballot open, and appointed Dr. Leitner, and Mr. R. B. Holt, Scrutineers.

The Treasurer, Mr. A. L. LEWIS, read the following Report:—

TREASURER'S REPORT FOR 1896.

The income of the Institute for the year 1896 was £530 7s. 9d., being £16 5s. 1d. more than the income for 1895. The sale of publications was increased by £20 9s. 1d., while the subscriptions were reduced by £4 4s., but this reduction is accounted for by the fact that only one life composition was received in 1896 as against two in 1895.

The expenditure for the year 1896 was £515 10s. 5d., as against £511 15s. 3d., properly chargeable in 1895. The difference is small and the items composing it need no explanation. The most satisfactory point to be noted is that our income has exceeded our expenditure by £14 17s. 4d. in consequence of the increased sale of our publications.

The liabilities at the end of 1896 (other than our moral liability to life members) were:—

	£	s.	d.
Rent for one quarter	33	15	0
<i>Journal</i> , one number, say	50	0	0
" <i>Anthropological Notes and Queries</i> "	36	5	4
Sundries, say	14	19	8
Total	£135	0	0

The assets at the same date were £600 Metropolitan Consolidated Stock (worth about £720), cash in hand and at the Bankers £167 15s. 11d., some unpaid subscriptions, and the library, furniture, and stock of publications.

A. L. LEWIS,
Treasurer.

ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.

Receipts and Payments for the Year 1896.

RECEIPTS.

BALANCES, 1st January, 1896:	
Cash at Bank	141 11 11
" Petty	2 11 8
Less "Notes and Queries" account	144 3 7
	27 10 4
Less "Notes and Queries" account	116 13 3
SUBSCRIPTIONS:	
For the year 1896	261 4 0
One Life Composition	21 0 0
Arrears	21 0 0
In advance	8 8 0
	411 12 0
SALE OF PUBLICATIONS:	
Messrs. Kegan Paul & Co. (July 1, 1896, to June 30, 1896)	85 0 3
Office Sales	13 9 6
	98 9 9
DIVIDENDS for one year on Metropolitan Consolidated 8½ per cent. Stock (less Income Tax)	20 6 0
"ANTHROPOLOGICAL NOTES AND QUERIES":	
Balance as per last account	27 10 4
Sales during 1896	8 15 0
	36 5 4
	<u>£883 6 4</u>

Examined and found correct,

(Signed) ROBT. B. HOIT, }
LAWRENCE GOMME, } Auditors.

January 23rd, 1897.

PAYMENTS.

RENT (including coal and gas), for one year to Michaelmas, 1896	135 6 6
PRINTING JOURNAL, Nos. 93, 94, 95 and 96, including Illustrations and Authors' copies	204 8 0
SALARIES AND COLLECTOR'S COMMISSION	74 10 5
STAMPS AND PARCELS	30 16 4
ADVERTISING	19 9
HOUSE EXPENSES:	
Cleaning rooms, &c.	16 18 0
Attendance and Refreshments at Meetings ..	19 5 0
	<u>26 3 0</u>
PRINTING AND STATIONERY	24 14 10
BINDING	2 1 9
LANTERNS	2 2 0
INSURANCE AND SYNDICATES	4 14 4
	<u>516 10 5</u>

BALANCES, 31st December, 1896:

Cash at Bank	162 13 10
Petty Cash	5 2 1
	<u>167 15 11</u>

£883 6 4

The Secretary, Mr. O. M. DALTON, read the following Report:—

REPORT OF THE COUNCIL OF THE ANTHROPOLOGICAL INSTITUTE
OF GREAT BRITAIN AND IRELAND FOR THE YEAR 1896.

The Council has to report that during the past year ten Ordinary Meetings and one special meeting have been held, in addition to the Annual Meeting.

In the course of the year the following numbers of the *Journal* have been issued: Nos. 94, 95, 96, and 97, containing 440 pages of letterpress, and illustrated by 23 plates and several woodcuts.

The Library is in full working order, many valuable additions having been made in the course of the year. The Catalogue has been kept up to date.

A scheme for classifying negatives and photographs in the possession of the Institute, and for the establishment of a loan collection of Anthropological lantern slides for the use of Fellows was under the consideration of the Library Committee at the close of the year.

The retirement of Mr. Doubleday has deprived the Council of the services of a most efficient Assistant Secretary. Mr. J. A. Webster has been appointed in his place. Nineteen new Fellows have been elected during the year, viz., three honorary and sixteen ordinary Fellows; fifteen have retired or died. The number of Corresponding Fellows was twenty-six.

In the following table the present state of the Institute, with respect to the number of its members, is compared with its condition at the corresponding period of last year:—

	Honorary.	Corresponding.	Compounders.	Ordinary.	Total.
January 1st, 1896	44	25	86	202	357
Since elected ..	3	1	1	16	..
Deceased or retired .. ..	..	..	3	12	..
January 1st, 1897	47	26	84	206	363

The following are the names of the Fellows whose deaths have been reported during the year:—

Mr. Horatio Hale, Honorary Member.

Mr. William Lockhart, Corresponding Member; and,

Mr. J. G. Philpot.
 Mr. J. Walker.
 Capt. J. Keene.
 Sir J. Prestwich.
 Dr. J. L. H. Langdon-Down.

Dr. John Nottingham.
 Dr. Wilberforce Smith.
 Dr. Robert Brown.
 Mr. A. Pulford.
 Miss E. E. Smith.

The Reports were adopted on the motion of the PRESIDENT, seconded by Dr. GARSON.

ANNIVERSARY ADDRESS.

By E. W. BRABROOK, *President*.

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| 3. Papers on Physical Anthropology. | 12. Journal of the Institute. |
| 4. Papers on Prehistoric Archaeology. | 13. Losses by Death. |
| 5. Sociology: Mr. Herbert Spencer. | 14. British Association. |
| 6. Papers on Ethnography of Europe. | 15. Ethnographic Bureau. |
| 7. Papers on Ethnography of Asia. | 16. Ethnographic Survey. |
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America. | 18. Hartland's "Legend of Perseus." |
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1. *Retrospect of Sixty Years.*

I HAVE observed, in the Presidential addresses delivered before some other scientific societies, that the keynote has been given by the circumstance that Her Majesty is now in the sixtieth year of her reign:—a reign longer, and also happier, more glorious, and more fruitful than any previous reign in English history. The Fellows of the Anthropological Institute will in no way be behind any of Her Majesty's loyal subjects in congratulating her upon this event, and in heartily wishing that it may still be granted to her in health and wealth long to live, and that the remaining years of her reign may be even happier than the past, and still more fruitful in all that tends to the glory and welfare of the country, in which the progress of scientific research and discovery are to no slight degree involved. The addresses to the other societies to which I have referred have in general dwelt upon the advances which have been made in the branch of science with which each

society was concerned during the sixty years in question. If I were to follow the example I should have to go back to the very beginning of anthropology, for as a science it did not exist when Her Majesty ascended the throne.

If anybody had consulted the "*Encyclopædia Britannica*" in the year 1837, he would have found Anthropology defined as "a discourse upon human nature; among divines, that manner of expression by which the inspired writers attribute human parts and passions to God." Had he referred to Johnson's Dictionary, he would have obtained the definition that Anthropology is the "doctrine of anatomy; the doctrine of the form and structure of the body of man." Linnæus, Buffon, and others had rightly treated man as a part of zoology. Blumenbach and a Dr. John Hunter had both in the year 1775 delivered discourses on the natural varieties of man: but both these treatises, remarkable as they were, remained in the form of Latin Doctorate theses. Prichard's great work on the physical history of man first appeared in 1813. These were the materials the student had for research in anthropology in the year 1837.

The Ethnological Society of London was not founded until 1843; ethnology was not adopted by the British Association until 1846, when an ethnological subsection of Section D was presided over by Prichard, with Richard King as Secretary. The Anthropological Society of London was not founded until 1863; and Anthropology was not adopted by the British Association until 1866, when for that year only an anthropological department of Section D was presided over by Alfred R. Wallace, with W. Turner and E. B. Tylor as Secretaries. In 1869 and 1870, Departments of Ethnology were presided over by E. B. Tylor and J. Evans; in 1871 to 1883 a Department of Anthropology was attached to the Section of Biology; in 1884 Anthropology became Section H, and has since then been not the least attractive, successful, and useful of the sections into which the field of science is mapped out by the British Association. This position it seems likely to hold.

2. Present Position of Anthropology.

Our backward glance over the sixty years of Her Majesty's reign, therefore, covers the whole history of Anthropology as a science; and we have but to compare the treatise on Anthropology, which was contributed by Professor Tylor to the 9th Edition of the "*Encyclopædia Britannica*," with the brief definition of the subject and of its theological namesake, which appeared in the 5th Edition of that work, to see what an absolute creation the modern science of Anthropology is. The author of that masterly treatise shows not merely how comprehensive and far-reaching are the claims and the province of Anthropology, but also how much has been done since the days of Blumenbach to establish it upon a sound basis.

If there be any among us who think that the status of Anthropology as one of the exact sciences is not what it should be, they should bear in mind that as yet it is the youngest of the sciences. The other sciences that have made enormous progress during the period of sixty years entered upon that period with an assured position and a ready-made grammar. These the anthropologist has had to build up for himself. This being considered, the progress of anthropology will bear comparison with that of any other science.

With this preface I may now proceed to point out to what extent the labours of this Institute have contributed to that progress during the past year. I shall briefly call your attention to the papers which have been read, arranging them in the order which I adopted in my last address. We have had no sensational discovery brought before us, to rival the exhibition of *Pithecanthropus* last year, but we have had many interesting and valuable communications.

3. Papers on Physical Anthropology.

In the Department of Physical Anthropology, we owe to the influence of my predecessor, Professor Macalister, two excellent papers. In one, Mr. R. J. Horton-Smith, of St. John's, compared

the cranial characteristics of the South Saxons with those of some of the other races of South Britain, and arrived at the following results:—first, that in the round barrows are to be found two types of skulls, one like the long barrow skull, while the other type is more British, leading to the inference that the broad-headed immigrants of the Bronze age conquered the Neolithic race, and then fused with them; second, that the South Saxons are not an absolutely pure race, having a small amount of British blood in them; and the Wessex Saxons are less pure, having more frequently intermarried with the British population. In the other Mr. Myers, of Caius, gave an account of 63 skulls from a field in the neighbourhood of Brandon, Suffolk, recently secured for the Cambridge University Anatomical Museum, and arrived at the following equally valuable results; that while there are skulls of three or four distinct types, brachycephalic, dolichocephalic, and sub-dolichocephalic, the larger number of skulls exhibit characters intermediate between those various types; and that the burial ground belonged, therefore, to a people which had for some time been living in a state of friendship and intermarriage, although composed of ethnically diverse races. These papers afford welcome confirmation of the doctrine of continuity, laid down by Prof. McKenny Hughes in the admirable address which he delivered to the Antiquarian Section of the Royal Archaeological Institute at its Canterbury meeting last July. I make this observation with the more pleasure that it fell to my lot, two days later, not having heard Professor Hughes's address, to offer arguments in the same direction to the same audience, based on the History of Kent, though I fear Professor Hughes would decline to accompany me on the path by which I arrived at a conclusion common to both.

4. Papers on Prehistoric Archaeology.

In the Department of Prehistoric Archaeology, we were favoured by Mr. Seton-Karr with an exhibition of the remarkable collection of stone implements discovered by him

in Somaliland. These again are most important documents for the consideration of the questions whether and where the connecting link exists between the paleolithic and the neolithic periods of time. That the progress of humanity must have been continuous from the earliest ages to the present is a theory which has its attractions for all of us, and we cannot fail to keep our eyes open for indications of that continuity and traces of the steps in the one rude art of the period which mark its successive stages. The experienced and cautious mind of Sir John Evans was impressed with the conviction that in Mr. Seton-Karr's discoveries one of these steps is perceivable. Coming to a later stage, we have to thank Dr. Gladstone for his paper on the transition from the Copper to the Bronze age; and Mr. Myres, for the paper in which he traced copper from its home in Cyprus to Hissarlik and Egypt. Indeed, I cannot but think that continuity is in the air, for it was most ably asserted from another point of view in our colleague Mr. Arthur Evans's presidential address to the Anthropological Section of the British Association in September.

5. Sociology: Mr. Herbert Spencer.

I do not recollect any communications belonging specially to the domain of general sociology; but I take the opportunity of mentioning that branch of our studies in order to offer my respectful congratulations to Mr. Herbert Spencer on the completion of his great text book on that subject. I have had the gratification of joining in a request to him, with which we are all glad that he will comply, to permit some enduring memorial of that occasion to be made. Mr. Herbert Spencer prefers, I believe, the atmosphere of his own study to that of a meeting room; but I do not forget that he, on one occasion, in the year 1875, contributed a paper, and on another, attended a meeting of this Institute, and joined in a discussion. The paper was a very masterly summary of the whole subject of comparative human psychology, intended to be a guide to

the psychological section of the Institute in the work it was then about to undertake.

6. *Papers on Ethnography of Europe.*

In the ethnography of Europe we have had two papers from Dr. Montelius, whom we have just added to our list of Honorary Fellows. He visited England in the autumn, but was not able to stay long enough to read his papers in person. They were laid before you by our Secretary, and excited some discussion. In part they were a response to the invitation of Mr. Arthur Evans, as president of the Anthropological Section at the Liverpool meeting, for papers relating to Eastern Europe and the origin of its peoples. It is always satisfactory when an anthropologist of the eminence of Dr. Montelius is willing to lay before a public audience and submit to discussion views that he has formed; and researches such as his must be instructive even to those who do not accept his conclusions. In the present instance, there is no doubt much to be said on both sides of the questions he raised, and his papers, when they appear in our Journal, will afford the foundation for their settlement. Besides Dr. Montelius, we have added to our list of Honorary Fellows, Mr. Holmes of the United States of America, and Dr. Rudolf Martin, of Zurich.

7. *Papers on Ethnography of Asia.*

With regard to Asia, Col. Woodthorpe, to whom we were indebted in 1881 for a valuable paper on the wild tribes of the Naga hills on what was then our North East frontier of India, has given us a very effective and picturesque demonstration of the costumes and other peculiarities of the Shans and the variety of hill tribes inhabiting the States on the Mekong, in Indo-China, now the eastern limit of our Burmese territories.

Miss Gertrude M. Godden has contributed a monograph upon the Nāgī and other frontier tribes of North-East India, in which the knowledge we possess from various sources of those wild hill tribes is ably digested and systematised.

The Rev. Walter Weston favoured us with information as to the customs and superstitions of the people inhabiting the great range of mountains in Central Japan, known as the Shinano-Hida range, gathered by him upon several visits to those highlands made during the six years in which he was British Chaplain at Kobe.

Mr. Creagh described some unusual forms of burial practised by the people of the East coast of Borneo; Mr. Wray, curator of the museum at Perak, furnished some important information on the cave-dwellings of that district, and animadverted on the report of Mr. Everett that they presented no special anthropological interest; and H.H. the Ranee of Sarawak, Lady Brooke, has presented the Institute with a fine collection of typical photographs of natives of the Rajah's territory, taken by herself. Mr. C. M. Pleyte has kindly sent us for publication a hitherto inedited legend of the Creation current in Batak, enriched with learned annotations.

Dr. Garson has favoured us with an account of Mr. M. V. Portman's recent observations on the Andamanese.

Mr. Balfour has exhibited a variety of native Indian preparations of hemp, and related the life history of an Aghori fakir.

8. Papers on Ethnography of Africa.

For Africa, we have to thank Mr. Swan for notes on his exploration of the ruined buildings in Mashonaland described as temples, similar to those at Zimbabwe discovered by Mr. Bent, which are of deep interest, as relics of a long departed civilisation and religion. Mr. R. M. Connolly has favoured us with the result of his vigilant observations of the habits of the primitive folk of Fanti-land, on the West coast, in the form of a comprehensive paper on their social life, including a very considerable body of information as to the language. Dr. Selater kindly exhibited a board on which a game resembling draughts is played in Nyassaland, and Mr. Read contributed some observations on the subject of similar games. Mr.

Balfour exhibited a remarkable bow and arrows found in Egypt, but believed to be of Assyrian origin.

9. *Papers on Ethnography of America.*

For America, we have had a communication from our eminent colleague, Professor D. G. Brinton, which I did not include among the contributions to Prehistoric Archæology, because it gives the weight of his great authority to the statement that in the Eastern United States, a region in which he has visited most of the important stations and seen most of the typical collections, the oldest stone implements present nothing in form or appearance, and have not in the history of their discovery any sure connections, which would convey them in time or in art-development to an earlier people or culture than that of the American Indian, as he was found by the earliest European voyagers. We had also a discussion, initiated by Mr. Osbert Howarth, in which that gentleman's suggestion of a migration of Asiatic culture to Mexico was found not to be supported. Mr. Read exhibited to us a remarkable wooden mask from the North-West coast. Our Hon. Fellow, Mr. Horatio Hale, sent four Huron wampum belts for exhibition, accompanied with a study of the historical and mnemonic uses of those symbols, which was supplemented by Professor Tylor in such a way as to throw a flood of light on this obscure but most interesting subject. The news of the death of Mr. Hale, well described as the Nestor of American ethnology, on December 29th, has been received by all of us with great regret.

10. *Papers on Ethnography of Australasia.*

For Australasia, we have to acknowledge a communication from Mr. Etheridge on Australian shields, more particularly the Drumung, which has been published with some excellent illustrations; and an exhibition by Major-General Robley of a number of specimens from his unrivalled collection of dried Maori heads, which he has since more fully described in his pleasantly written and well illustrated work on Moko or Maori

tattooing, in which that painful and difficult art is skilfully displayed. Lieut. Somerville's notes on New Georgia were of great interest, and the figures which accompanied them were exceptionally lifelike.

11. *Papers on Linguistics.*

In the Department of Linguistics, besides the contribution of Mr. Connolly on the languages of the Fantia, to which I have already referred, we have to thank our member, Mr. Sidney Ray, for a vocabulary and general notes on the language of Makura, in the Central New Hebrides, compiled from information given by the Rev. Oscar Michelsen, Presbyterian missionary on the island of Tongoa.

12. *Journal of the Institute.*

In addition to these papers which have been read at our meetings, we have to acknowledge valuable critical reviews of new works, contributed by Professor Keane, Miss Buckland, and others, to the "Miscellanea Anthropologica" in our Journal, and also the excellent Bibliography which is prepared each quarter by our indefatigable Secretary. The Institute is deeply indebted to that gentleman for his devotion to its welfare, and for the exertions which have led to so many interesting and successful meetings having been held during the year.

13. *Losses by Death.*

I am glad to find that we have not this year to record any loss by death comparable to that which we sustained by the death of Huxley in 1895. The laws of nature, however, exact from us each year a tribute of worthy members, whose memory we cherish; and there are several of those who have joined the great majority during the past year whose services I must take this opportunity of recording.

Dr. Langdon Down was elected a member in June, 1865; he became a member of Council in December, 1866, and served several years in that capacity. Beyond an obituary notice

of a pupil of his, I do not find that he contributed to our transactions, though he was an eminent alienist and patient investigator.

Dr. Wilberforce Smith was elected a Fellow of the Institute on March 25, 1890, and at the meeting of December 9 in the same year, joined in the discussion of Lady Welby's paper on "An apparent paradox in Mental Evolution." At our meeting on May 8, 1894, he read an excellent paper on "the Teeth of ten Sioux Indians," in which he investigated the curious fact of the superiority of savage races over civilised man in respect of the development and freedom from decay of their teeth. To this he afterwards added a note, in which he suggested that the ancient Romans owed the like superiority over ourselves to their disdain of the knife and fork, and supported his view by quotations from classic writers. He also contributed several papers to the Anthropological Section of the British Association, and served for some years on the Anthropometric Laboratory Committee and the Committee on Feeble-minded Children. In him we have to regret the loss of a colleague of high competence, from whom other communications of value might have been expected.

My dear and honoured friend, Mr. William Lockhart, of Blackheath, had been a corresponding member of this Institute from its beginning, having been previously a corresponding member of the Ethnological Society. Nearly forty years ago he contributed a paper to the Transactions of that Society on the "Miautsze," or Aborigines of China, and produced for inspection a series of drawings of those hill-tribes, made by Chinese artists. As far back as the year 1834 he qualified himself as a surgeon, and shortly afterwards became the pioneer medical missionary to China, where he remained for thirty years. He married a sister of Mr. (afterwards Sir Harry) Parkes, and that estimable lady survives him. The very interesting biography of that able diplomatist, lately published, contains much information communicated by Mr. and Mrs. Lockhart as to his early career. For many years

past, Mr. Lockhart had been an active director of the London Missionary Society, and in that capacity took great interest in the Society's Ethnological collections, now in the British Museum. He had large collections of his own, principally relating to China, some of which are now in the Museum of Practical Geology at Jermyn Street, and others at the British Museum, but a considerable number remained in his own possession. Though he had not for a long period attended our meetings, I had frequent opportunities of observing the interest he took in our transactions, and discussing anthropological questions with him. He became a Fellow of the Royal College of Surgeons in 1857.

The Rev. W. Wyatt Gill, LL.D., was another of the many remarkable men who have been selected by the London Missionary Society to minister among uncivilized peoples, and have used the opportunities of investigation thus afforded them for the benefit of anthropological science. He contributed a paper to this Institute on February 8, 1876, "On the Origin of the South Sea Islands, and on some Traditions of the Hervey Islands," and on that occasion he remarked, "I have spent about twenty-two years in the Hervey Group in the South Pacific. Shut out to a great extent from the civilised world, I enjoyed great facilities for studying the natives themselves and their traditions." In 1890 he contributed to our Journal some information as to childbirth customs in the Loyalty Islands, obtained by Mrs. Gill from the natives. He was also the author of several works giving in a popular form many particulars of native manners and customs, *e.g.*, "Life in the Southern Seas, or Scenes and Incidents in the South Pacific and New Guinea." On his last return to the Pacific, he went as general superintendent of the Society's Missions in that part, and had his headquarters at Sydney, N.S.W. On one of his visits to this country he came to reside in the neighbourhood where I was then living, and I had the good fortune to make his personal acquaintance; and I can but address to his memory the last words of a note he wrote to me as he left England for Rarotonga "Vale, Amice!"

Sir Joseph Prestwich was also a Fellow of our Institute, and though his scientific honours were gained as a geologist, we bear in mind a recent occasion on which he exhibited a remarkable collection of extremely rude flint implements, found in Kent, and communicated a paper thereon which was the subject of much discussion at the time, and has led to the continuance of the ventilation of the question of a pre-palæolithic race by papers subsequently laid before us by other authors expressing different views upon it. In a communication which I have been permitted to address to the current number of the "*Zoologist*" by the courtesy of its editor, our former director, Mr. Distant, I have attempted briefly to indicate some of the grounds upon which, as it seems to me, the conclusions which Sir Joseph Prestwich indicated on that occasion may be maintained.

Since the close of the year, the name of Dr. Frederic John Mouat, the explorer of Andaman, is to be added to our list of losses by death.

14. *British Association.*

At the meeting of the British Association in Liverpool, the excellent suggestion made by the President of the Anthropological Section, that the discussions in that section should centre round the various racial problems of Eastern Europe, was fruitful, and though it may have seemed to some that it gave to the section a rather pronounced tinge of archæology, the other branches of our science were not neglected.

In your name I joined in the expression of sympathy with the movement in Holland for celebrating the centenary of the birth of Andreas Retzius. Our Secretary has since emphasized that sympathy by a written communication on the part of the Council.

15. *An Ethnographic Bureau.*

A paper of great practical importance was read by our colleague Mr. C. H. Read, on the subject of the establishment of an Ethnographical Bureau. It was remarked in the dis-

cussion that every one of my predecessors in this chair had advocated this most essential undertaking, and I will not be the first to fail in doing so. An empire like that of the United Kingdom ought certainly to possess some central establishment in which a knowledge of the races of the empire might be acquired. The splendid precedent of the Bureau of Ethnology attached to the Smithsonian Institute, confined as it practically is to the races which formerly existed on the American continent, shows what might be done on the much wider field of inquiry that we possess, if only the public spirit of the nation and its rulers could be awakened to the priceless value, not to say the absolute necessity, of the enterprise. I cannot use more forcible language than that of my immediate predecessor on this point: "It is little short" (said Professor Macalister) "of a national disgrace that in the largest empire of the world, within whose bounds there are nearly as many separate peoples and tribes and kindreds and tongues as in all the other nations put together, there is no Imperial Department having for its functions to collect and classify the facts of the physical, psychical, and ethical history of our fellow subjects."

16. *The Ethnographic Survey.*

The Ethnographic Survey Committee of the British Association, upon which this Institute is largely represented, has continued its useful work. The collection of physical observations from various parts of the United Kingdom is steadily growing, and at the same time collections of folk-lore are being made. One such, accumulated in Dumfries-shire, is appended to the Committee's report for the present year, as part of the work done for the Committee by the Rev. Dr. Walter Gregor. Our Fellow, Mr. Gomme, the founder and former president of the Folk-Lore Society, read before the Association a masterly paper on the scientific treatment of folk-lore. That paper is appended at length to the report of the Committee, and its perusal and study will well repay those who desire to know how folk-lore should be studied. Mr. Gomme has, I think,

devised a plan by which the strange beliefs and customs, which have come down to our own times from our uncivilised forefathers, may have a definite meaning and significance extorted from them. It is gratifying to find that in Switzerland, in the United States of America, and in Canada, Ethnographical Survey Committees have been appointed to work on the lines laid down by the British Association Committee.

17. *Childhood Society.*

Another Committee, associated with Section H, has now completed its labours; that for dealing with the backward and ill-developed children who abound in schools. This is a subject in which Sir Douglas Galton has shown a keen interest, and it has been followed up by Dr. Francis Warner, an eminent physician, with great skill and ability. It was felt, however, that the problem, as one of anthropology, has now been exhausted, and that it has become rather a question of social economics than of science. Some gentlemen and ladies interested in its further development have formed themselves into a Childhood Society, which it is hoped may be of some practical utility. I have had great pleasure in associating myself with them, and our colleague, Mr. R. Biddulph Martin, M.P., has become the treasurer of the Society. While it is to a certain extent a departure from strict anthropology, its labours will, I hope, tend to enlarge our knowledge of infant life, and of the causes which so often render it unpromising if not hopeless unless dealt with in time.

18. *Hartland's "Legend of Perseus."*

In my last year's address I referred to the second volume of "The Legend of Perseus" as written by one who, though not a Fellow of the Institute, was a zealous worker in its field. In drawing your attention to the completion of the trilogy by the publication of a third volume, I am now happy to say that its author is one of our body, my friend Mr. Hartland having responded to the appeal I addressed to anthropologists in the

November part of our Journal by asking me to propose him for membership. I congratulate the Institute on his election, for I hope it gives promise of many valuable communications to us in future. The work in question founds upon the Legend of Perseus a complete study of Tradition in Story, Custom, and Belief, and shows how certain primitive ideas are the common possession of man in all parts of the world and all degrees of civilisation. In the first volume this doctrine was applied to the Supernatural Birth; in the second to the Life Token; in the third to the Rescue of the Maiden and the Medusa Witch. I have the strongest possible conviction that the light thrown by such researches as those of Mr. Hartland will spread, and that in it we shall perceive more and more clearly as time goes on what are the laws which govern the development of traditional ideas. The originality and courage of Mr. Hartland's views are tempered in this last volume by a large infusion of scientific candour, reticence and modesty.

19. *The Problem of Transmission.*

In association with this subject, so well handled by Mr. Hartland, I will ask leave also to draw your attention to a valuable memoir recently published in the "*Internationales Archiv für Ethnographie*," by one of the most distinguished and honoured of my predecessors in office, Professor Tylor. From the new evidence afforded, on the one hand, by the publication of Duran's "*History of the Indies*," as to the game of patolli among the Mexicans, and on the other by a photograph of two players engaged at the game of pachisi in India, Professor Tylor adds to the force of the comparison between the two games which he drew in our Journal eighteen years ago. In measuring the evidential value of the strong similarity between these two games, as proof of Asiatic intercourse with America before the time of Columbus, he raises the problem, as yet only imperfectly solved, but which he of all men is the best qualified to guide us in attempting to solve: What kind and amount of similarity in the arts or customs or

opinions of different districts may justify us in denying, or perhaps I should say require us to deny, the possibility of their independent development and to claim them as results of transmission? I think that upon the right solution of this problem the future of anthropology very largely depends. So far as I feel myself qualified to observe the processes going on in the minds of anthropologists occupied in the various branches of our science, it has appeared to me that there is a growing tendency to discountenance inquiries into transmission, and to consider phenomena as related to a particular stage in civilisation arrived at by the operation of general laws, rather than as arising from communication between the peoples. An interesting illustration of this occurs to me in connection with some remarkable coincidences which were brought before the notice of the Royal Society of Literature by Professor Max Müller, who raised this very problem. He showed that some Buddhist rituals and modes of thought resembling those of certain sections of Christianity could be traced back to a date anterior to the Christian era. Some of his hearers, among them I believe the noble President of the Society, viewed with jealous indignation what appeared to be an attack on the originality of Christianity, and was indeed put by the right honourable author as an evidence of intercommunication. If such a matter had been discussed before this Institute, instead of before the Society of Literature, I am much inclined to think we should have busied ourselves rather with the investigation of the adaptation of the peculiarities in question to the forms of thought, which had been gradually developed among the respective peoples, than to any speculation as to the place where such forms of thought arose or the manner in which they had been transmitted. I look upon this tendency as entirely healthy; I associate it with the tendency, which I also think to be a growing one, of seeking the simplest and most obvious explanation for phenomena; and I believe that both together are full of promise for the future of anthropology.

It was moved by Sir H. Low, seconded by Mr. GOMME, and unanimously resolved:—

“That the thanks of the Meeting be given to the President for his address, and that it be printed in the *Journal* of the Institute.”

The SCRUTINEERS gave in their Report, and the following gentlemen were declared to be duly elected to serve as Officers and Council for the year 1897.

President.—E. W. Brabrook, Esq., F.S.A.

Vice-Presidents.—H. Balfour, Esq., M.A.; John Beddoe, Esq., M.D., F.R.S.; Sir John Evans, K.C.B., D.C.L., F.R.S.; Sir W. H. Flower, K.C.B., LL.D., F.R.S.; Francis Galton, Esq., D.C.L., F.R.S.; Sir Hugh Low, G.C.M.G., F.G.S.; Rt. Hon. Sir John Lubbock, Bart., F.R.S.; Prof. A. Macalister, M.D., F.R.S.; Cuthbert Peek, Esq., M.A., F.S.A.; Lieut.-General Pitt Rivers, D.C.L., F.R.S.; Prof. Edward B. Tylor, D.C.L., F.R.S.

Hon. Secretary.—O. M. Dalton, Esq., B.A.

Hon. Treasurer.—A. L. Lewis, Esq., F.C.A.

Council.—G. M. Atkinson, Esq.; W. M. Beaufort, Esq.; J. F. Collingwood, Esq., F.G.S.; J. G. Garson, Esq., M.D.; G. L. Gomme, Esq.; W. Gowland, Esq., F.S.A.; Prof. A. C. Haddon, M.A., D.Sc.; T. V. Holmes, Esq., F.G.S.; R. B. Holt, Esq.; Sir H. H. Howorth, M.P.; R. Biddulph Martin, Esq., M.P.; A. P. Maudslay, Esq.; J. L. Myres, Esq., M.A.; F. G. H. Price, Esq., F.S.A.; R. H. Pye, Esq.; C. H. Read, Esq., F.S.A.; F. W. Rudler, Esq., F.G.S.; Prof. Arthur Thomson, M.A.; Coutts Trotter, Esq., F.G.S.; M. J. Walhouse, Esq.

Assistant Secretary.—J. Aplin Webster, Esq.

Mr. Gomme expressed regret that there was no Bureau of Ethnography in this country, and suggested that this year, the 60th of our Queen's reign, would be a favourable time for this and other Societies to impress on the Government the necessity of assisting in the foundation of such a Bureau. It was unanimously resolved that the Council take steps during the present year to find the best means of forming such a Bureau, and obtaining for it the support of Government.

A vote of thanks to the retiring Vice-President, the retiring Councillors, the Secretary, the Treasurer, the Auditors and the Scrutineers, was moved, seconded, and carried by acclamation.

ANTHROPOLOGICAL MISCELLANEA AND NEW BOOKS.

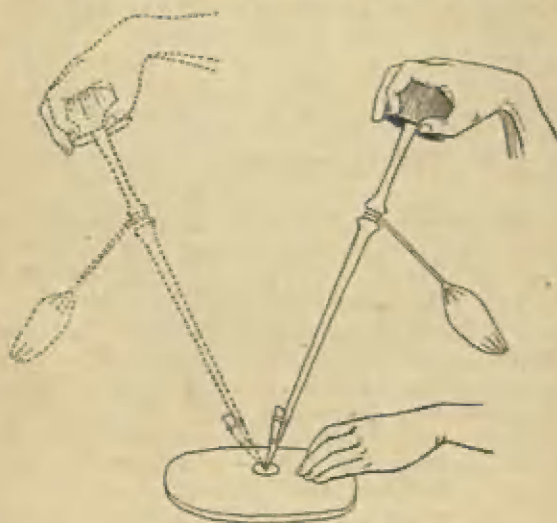
Readers of the Journal are invited to communicate any new facts of especial interest which come under their notice. Short abstracts of, or extracts from letters, will be published at the discretion of the Editor. Letters should be marked "Miscellanea" and addressed to The Secretary, 3, Hanover Square, W.

We are indebted to Mr. J. J. Atkinson for the following interesting communication accompanied by the sketch which is here reproduced. This method of drilling is unusual, the employment of a weighted bag apparently not being known elsewhere.

The Editor of the ANTHROPOLOGICAL JOURNAL.

Dear Sir,

I send you a drawing of the drill used in former times by the natives of New Caledonia to pierce their stone axes—although the pump drill was also known to them. It is quite new to me, nor do I see any mention of it in any of my books—although perhaps within the knowledge of wider students of Anthropology. It



seems a remarkable instrument to have been evolved by so comparatively low a race in its utilization of centrifugal force for the economy of labour. Its peculiar action in use would seem to explain the fact of the abnormally large external diameter of the holes found in such axes, and which it was difficult to explain even on the improbable assumption that an unnecessarily large borer was used.

The hard flint-like stone used as borer was lashed to the end of a stick about 2 feet long. The other extremity ended in a blunt rounded point. About 8 inches from this and within a groove carved in the wood was fixed a bit of string, some 7 inches long, to the other end of which was fastened a bag containing a stone $\frac{1}{4}$ of a pound in weight. The worker took in his right hand the half of an empty cocoanut shell, this he placed on the upper blunted end of the stick, thus forming a loose ball and socket joint. Pressing lightly he began by giving it a gentle circular motion which rapidly increased in speed; the weighted bag at once flew out, and thus with very little physical exertion the process of piercing is continued; the left hand holds to the ground the axe which is to be bored. This instrument is now so little known that the Curator of the Noumea Museum, M. Bernier, had much trouble in getting a model made by some old natives.

Yours truly,

J. J. ATKINSON.

Thio, New Caledonia,
January 28, 1897.

This Peruvian vase, recently acquired by Mr. Read for the British Museum, is of exceptional interest on account of the figures represented in relief on its sides. It will be seen that the warrior who is being carried off by the lower figure has two spears in his left hand, and what appears almost certainly to be a throwing-stick in his right. Hitherto the examples of throwing-sticks known to belong to the Peruvian area have been very rare. One from Riobamba, Ecuador, will be found figured by Dr. Max Uhle (*"Wurfhölzer der Indianer Amerika's."* *Mittheilungen der Anthr. gesellschaft in Wien*, vol. xvii, 1887, Plate IV, Fig. 2, where it is seen upside down); the other, from Quito, by Dr. Stolpe (*"Ueber altmexikanische und Südamerikanische Wurfbretter."* *Internat. Archiv für Ethnographie*, vol. iii, 1890, Fig. 6). Both thus belong to the inland country where pottery of the type represented in our illustration was probably not made. Dr. Uhle is of opinion that the throwing-stick was not in general use in ancient Peru; but the design upon this vase suggests that it was at any rate known in the lower country nearer the coast, though whether it was regularly used in warfare or not is still uncertain. Any discovery tending to increase our knowledge of the area over which throwing-sticks were used in South America is always worth recording, and it is to be hoped that further examples either of the weapon itself or of representations of it may be found from the same locality.

The throwing-stick on the present vase seems to belong to the same general type as the Quito and Riobamba specimens, the large hook near the butt being meant for the first finger, thus taking the place of the pegs or holes familiar in other types. This hook, which appears to be of exaggerated size, would in the actual object be at right angles to the small peg at the opposite end against which the butt of the javelin would rest at the moment of throwing. That it is here represented as in the same plane is probably due to artistic necessity, for unless seen in profile, neither peg nor

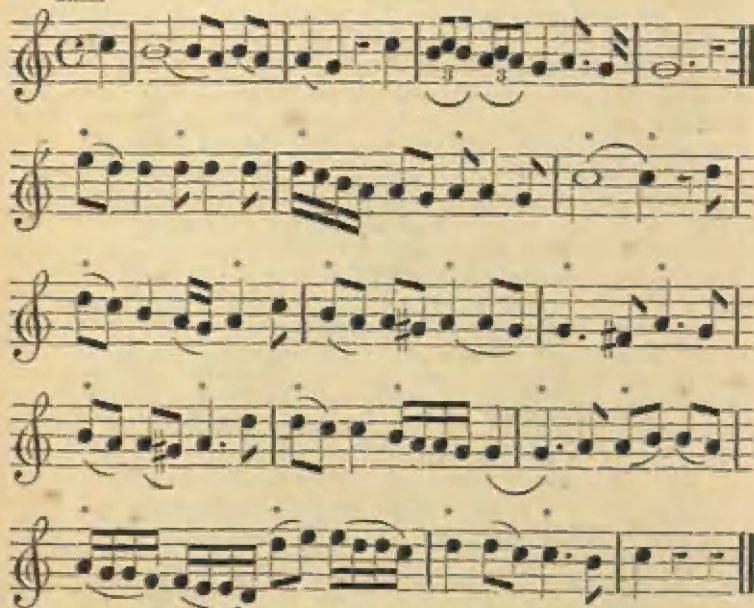


hook would be as conspicuous as their importance required. In the weapons from Quito and Riobamba the finger-hooks are comparatively small; in that from the former place the hook is made of a spur of a bone tightly lashed with cord.

MR. JAMES EDGE-PARTINGTON sends the following corroboree music from the Burnett River, Queensland, forwarded to him by Mr. Charles Handley :—

Burnett River Corroboree.

CALL.



* Signifies the beat of boomerangs, nullah nullahs, etc., while the gins pad the opossum skins.

Songs and Specimens of the Language of New Georgia, Solomon Islands. Collected by Lieutenant B. T. SOMERVILLE, R.N.; with an *Introductory Notice of Melanesian and New Guinea Songs*, by SIDNEY H. RAY.

PART I. INTRODUCTORY, BY SIDNEY H. RAY.

It is a remarkable characteristic of the Song-Literature of Melanesia and New Guinea, that only in a very few examples has it been possible to give a translation of the words used, which will convey sense. Wherever songs have been collected, whether in Fiji, in Banks' Islands, New Hebrides, Solomon Islands or New Guinea, they are only partially intelligible. They are so, even to the natives themselves who sing them, and all the efforts of missionaries and others acquainted with the languages often fail to remove the obscurity. When, however, the songs are of some length and become narrative or historical poems they are much more intelligible, although containing still many obscure passages. Lieutenant Somerville, during his recent ethnological inquiries in

New Georgia,¹ collected and sent to me several specimens of native songs, and these have suggested the collection and illustration of specimens from other parts of Melanesia and New Guinea, with references to the published literature on the subject.

1. *Fiji Songs.*

An account of Fijian versification with specimens was given by Hale in the *Philology of United States Exploring Expedition*,² and some further specimens have been given by Waterhouse in "The King and People of Fiji,"³ and by A. S. Gatschet.⁴ The latter are mostly derived from the collection of Rev. Lorimer Fison. But by far the most important notice of Fijian literature of this kind is a paper read at the Ninth Congress of Orientalists by Sir Arthur Gordon (now Lord Stanmore), on Fijian Poetry,⁵ in which is given various translated portions of songs.

In Fiji songs are of two kinds. The *sere*, sung or chanted sitting, and the *meke*, sung to accompany dances, or during the preparation of kava (*yagona*). It is noted that the latter especially are "very ancient and very unintelligible," that the songs are still an essential part of the lives of the people and are composed as occasion offers. Concerning sacred songs, Sir Arthur Gordon remarks as follows: "The sacred songs are exceedingly difficult to translate. This difficulty is due to several causes. One is that the language in which they are written differs from that in everyday use, whether only in being older, or as being purposely couched in different terms, I do not venture to pronounce positively, though my opinion inclines strongly in the latter direction. Another is to be found in the extremely elliptical and allusive nature of the phrases used. A third and one often not sufficiently thought of, is that most of them were intended to be acted, each singer or band of singers having a distinctly assigned part. To read one of them straight through is like reading a scene in a play in which there is a good deal of animated conversation and action, as if it were printed without any punctuation, without any hint that there is more than one speaker and without stage directions or changes of scene."

As specimens of Fijian songs in the native language I extract the following from Waterhouse.⁶ No translation was given by the collector.

¹ See page 357.

² United States Exploring Expedition, commanded by Charles Wilkes, U.S.N., during 1838-42, vol. vi, "Ethnography and Philology," by Horatio Hale. Philadelphia, 1846. 4to.

³ "The King and People of Fiji," by Joseph Waterhouse. London, 1866. Bro.

⁴ "Specimens of Fiji Dialects," edited from manuscripts of Rev. Lorimer Fison, by A. S. Gatschet, in "Internat. Zeitschrift für Allgemeine Sprachwissenschaft," II Band. Leipzig, 1885, pp. 193-208.

⁵ "On Fijian Poetry," by Sir Arthur Gordon, in "Transactions of the Ninth Internat. Congress of Orientalists," vol. ii. London, 1893, pp. 731-753.

⁶ "King and People of Fiji," p. 425.

Song of the Tobacco. (*Vanna Lavo*.) It may be provincialised.

Dru taki waitui, dru tale;
 Cici muri ko Lewatagane;
 Sa maqa na tavoko e na masi?
 A tavako li ka koto mai vale.
 Qai la'ki soli kei na yakavi.
 Solia vakacava caviaki?
 Qisomakina ki na tulu ni vale.
 Ualili mai e dua na tobe,
 Ualili mai yasa mai cake,
 Au cata na vakawati ni qase,
 E dua vei au na gone
 Mei virivi ni tavakoe.

War Song. (*Mbau*).¹

Ai tei vovo, tei vovo,
 E ya, e ya, e ya, e ya;
 Tei vovo, tei vovo
 E ya, e ya, e ya, e ya.
 Rai tu mai; rai tu mai;
 Oi au a viriviri kemu bai.
 Rai tu mai; rai tu mai;
 Oi au a viriviri kemu bai.
 Toa alewa tagane
 Veico, veico, veico.
 Au tabu moce koi au
 Au moce ga ki domo ni bian.
 E lavu koto ki ra nomu waga,
 E kaya beka au sa lavu sara.
 Nomu bai e wawa more
 Au a tokia ka tasere.

2. *Banks' Islands Songs.*

An account of the song dialects of the Banks' Islands is given by Rev. Dr. Codrington in his work on the Melanesian Languages. Speaking of the Songs of Mota he points out:

1. That the songs are never made in the common language, nor is their language that of any neighbouring place.
2. Each island has its own song dialect.
3. There is nothing to prove that the song dialect is an archaic form of the common language.

It is also shown that the differences from the common language "consist (1) in the casting out of vowels and consequent contraction of the words; (2) in the occasional addition of a final vowel; (3) in the use of words not used at all or used differently in the common language; (4) in the imitation of foreign forms.

In Mota the person composing a song is called a *toutoroas*, one who measures, *totoo*, a song as. The song is called after the person

¹ "King and People of Fiji," p. 320.

who is the subject of it, and is *na asina*, his song, it is *na toweana*, his measure, of the poet, who is said to *tara* the subject of the song. To chant the song is *we sur o as*, to draw out the song.

I quote from Dr. Codrington¹ a part of a song about Bishop Selwyn, in the song dialect of Mota, Sugarloaf Island, and also a part of the same song in the Motlav, Saddle Island Dialect.

Mota.

Oeoewa wu roro sa? naroron i Besope ni gam tal na Vano lave; nalaik na lan lave, nasrik na ar Merlav, ni se turtur ale lame; gis nok melov ok; melov rer me rere levrar Rohenqon, nam loslos wore sur na te mul Ulsilane, ro Tingormew se tar gor norue.

Motlav.

Aeoewae! wo reronse? wo reron e Besove ni gamtel weveno mee, nalai neleslav, e nasri neer Merlav ni se turtur le lame; gis wo melovok; melovrer eurer levrane Rehirqon, nam loslos wor enaen te mul Olsilade, Retingormew se tar gor doro.

Mota Prose Version.

Oeoewa! o roro sa? na roron Bishop, we gamo tale o Vanua Lava; nalaik o lan lava, nasuruk o aru ta Metalava, ni we turtur alo lama; gis! nok molov aka, o molov rere me rere lo varan Rohenqon, na me loslos wora, ape na te mule Ulsilane, ro Tingormew we tar goro narna.

English.

Oeoewa! News of what? News of the Bishop, he sails round Vanna Lava. My wind is a great wind, my bones are the Casuarina tree of Merlav; he stands in the sea. Oh! my sailing of the ship; the sailing on the flow of the sea has flowed into the bosom of Rohenqon; I am nothing but rejoiced because I shall go to New Zealand; Ro Tingormew withstands us two.

3. *Tanna Song, New Hebrides.*

The only specimen of Song literature which I have from Southern Melanesia is the following from the island of Tanna. It presents many of the features of the Fiji and Banks' Island songs, and though mainly in the Kwamera dialect, contains several Weasisi words, obscure phrases, and even borrowed and modified English words. The subject is the shooting of a Weasisi man named Yehlu (called Yeru in the song) by Pusi. The Rev. W. Gray gives the song and notes as follows:—

Ua ren ren raò
Ua ren ren raò
Ua ren ren raò
Ua ren raò
Ren ren rinraò.

These words have no meaning
so far as we know.

¹ Codrington, Rev. R. H., "The Melanesian Languages," Oxford, 1885, pp. 309 and 321.

2.

Awé! Niút keikei!
Awe! Niút keikei!
Awe! Niút keikei!
Iripen iau
Yakatërëng poison.³

3.

In kûri rîneivî
In kûri rîneivî
In kûri rîneivî
Ravahi meven
Rûmaha ravahëraka.

4.

Pûpûm ti-ratiûta
Pûpûm ti-ratiûta
Pûpûm ti-ratiûta
Rînahî³ Yêrû
Mahtî nûprei nirûs.

5.

Awe! kaha Pûsî—(3 times.)
Rînarukî Yêrû,
Mûranî neirûs.⁵

6.

Awé nîma imak! (3 times.)
Yîma afwé Pûsî
Rarûki iau.

7.

Yêrû ramasûk—(3 times.)
Makwein abômôa.
Awé, nûrûk Nûpan.

8.

Awé, nûrûk Nûpan! (3 times.)
Nûrûk Nûpan!
Awé, Tata Yeru!

9.

Kahû ramasûk. (3 times.)
Makwein abômôs:—
Awé mîrâk Yeru!

10.

Awé, nîma imak
Ti-ariér
Mata nokweikwei.

2.

O beloved Nint.¹

Lead me there.
That I may feel the poison.

3.

The evil spirit prompted.

He takes (it) and goes.
Rumaha takes (it) away.

4.

By and by he will ascend.⁴

He has shot at Yeru.
And shot the trunk of a nirus.⁵

5.

Aha! my grandfather Pusi;
He has shot Yeru,
And shouldered his snider.

6.

Oh, my kindred!
That fellow Pusi
Has shot me.

7.

Yeru keeps crying:—
And calls long:—
Oh, my child Nupan.

8.

Oh, my child Nupan!⁶
My child Nupan!
Oh, my father Yeru.

9.

Kahu keeps crying,
And calls long.
Oh, my father-in-law Yeru!

10.

Oh, my kindred
Stand you three there.
And look at the raw flesh of
the wound).

11.

Awè, yakīnamapau !
Nima imak ti-o
Mūvihi iau.

11.

Alas ! I have become weak.
My kindred do ye (something),
And take me.

Notes.—¹ Niut is probably the spirit of a dead person who is supposed to give help to his descendants when they set out a bowl of kava for him to drink. ² Paison is the English word poison. ³ Rinahti is partly Weasisi and partly Kwamera dialect. ⁴ Yeru was shot on rising ground. ⁵ Nirus is a tree with poisonous bark. ⁶ A corruption of the English word snider. ⁷ Yeru's son with his wife Kahu arrive.

4. New Guinea Songs.

The few specimens of New Guinea songs known differ very little in general character from those of other parts. Macgillivray so long ago as 1852¹ gave an untranslated song in the Tassai (Brumer Island dialect). The following are given by the Rev. James Chalmers.²

1. A Motu song sung on lakatoi, taught to Edae³ by the Spirit.

Bokibada oviria nanai,	Ela lao nauuore diaia ;
Ario virin na bo veriauko ;	Pinuopa diaia uuero nairuovo.
Bokibada eraroi nanai,	Ela lao melarava memeru.
Irope umanai ela Danko.	

2. Another of the same character.

Edae Siabo hidia daqai	Baya hadaqai balaru dobi,
Ba nega dobi,	Edae Siabo, Edae a Siabo,
Edae Siabo, Edae a Siabo,	Edae a Siabo, Edae Siabo
Edae tu mai.	Hidia hadaqai.

3. Kabadi songs used when gardening.

"All the young bananas are placed round the plantation ready for planting, the planter takes one of the best, stands in the centre and looks inland ; holding in his hand the banana, he says :—

Lariba dubaduba o.
Jaribari dubaduba o.
Jaribakeri dubaduba o.
Egu dui dubaduba o.
O egu orous dubaduba o.

Lifts it up and looks at it ; addressing it he says :—

O natuguo dobi haragaharaga, heau haragaharaga ;

¹ Macgillivray, J., "Narrative of the Voyage of H.M.S. 'Rattlesnake,'" London, 1852, p. 274.

² Chalmers, Rev. J., "Pioneering in New Guinea," London, 1887, pp. 117, 118.

³ Edae was the legendary introducer of sago from the west to the Motu and tribes on the eastern shores of the Papuan Gulf.

When the bananas are bearing, and the time has come to cover them, he stands in the plantation and chants:—

Egumigumi mo e
Bamo be gumigumi e
Oi aubeghasi a gumigumi e
O bamo be aroberobe me aubeghasi
Aubeghasi aroberobe moe e-e-e-e.

When finished tying, he stands and turns towards them all and chants:—

E au mia e
Sinahu lau mia e
Daha rasenai e
Sinahu lau mia e-e-e-e.

Used when planting yams:—

Asinavari daudan (four times).
Huevara daudan " "
Bedovari daudan " "
Naevari daudan " "
Eogovari daudan " "

When the yams are just appearing above ground:—

Sinari kenikeni (twice).
Hueri kenikeni "
Ruela kenikeni "
Naera kenikeni "

Concerning these songs Mr. Chalmers' says "I made many efforts to discover the meaning of these songs, but the natives themselves have no knowledge whatever of their purport."

In the "Annual Report on British New Guinea" for 1890-91. Mr. R. Guise gives some specimens of Ballads and Songs in the dialects of tribes in the Central districts of New Guinea. I transcribe these in full.¹

LEKU-LEKU.

(Ballad recording noteworthy events in the history of a tribe.)

These particular portions are in a language which is not spoken in this neighbourhood and are the oldest verses of the song known. It resembles the language spoken by the tribes inhabiting the south end of the Macgillivray Range.

I.

Kita vetali vetalimina Wapuli Wapuli Roga is talking of
Roga kila vetali vetalimina. fighting, is talking of fight-
ing.

¹ 1892, Queensland, "Annual Report on British New Guinea from 1st July, 1890, to 30th June, 1891." Appendix GG, "Native dialects," p. 108, "Vocabulary of Bula's dialect." Preface by R. Guise, Esq.

II.

- | | |
|---|--|
| Alepa melo gemi melina bua
rigona pakini roli pitagoana. | The Alepa men were coming
armed. We drove them
away. |
|---|--|

III.

- | | |
|--------------------------------------|---|
| Kara gota revaluai leva tu-
puna. | Should we throw a spear, a
man is hit. |
|--------------------------------------|---|

LEKU-LEKU, from Kwaipo, in the Macgillivray Range.

- | | |
|---|--|
| Oi babine aririgo taona tena
oaririgo aririgona. Leku
leku, &c. | O you woman, softly walking,
softly creeping. |
| Varaina gela malaga varaina
variana roka keto vegata.
Leku, &c. | O you man, you come from
afar, and fall on the path. |
| Oi babine tipi ono koro maina.
Leku, &c. | O you woman, catch a quail
with a hand net. |
| Nege pune maoma kora vera-
riana. Leku, &c. | O you girls, who is strong to
catch a pigeon. |
| Nega vanuga nuganana origo
suna rage auna. Leku, &c. | Inside the village, let us march
up, let us march down. |

LEKU-LEKU, a later composition, written in the tongue used in Kamali.

- | | |
|--|---|
| Olulaga oi buikima maniga
pala popolona epuru wai
puru voina leku - leku ve
leku. | O, Olulaga, your hair is thick
and long as the leaves of a
"popolo." |
| Olulaga oi gimamu kora lege-
nānānegi mānēga amo nana
namo amo taliana. | O, Olulaga, when you shake
your kora (man-catcher) a
heavy dew falls. |
| Olulaga irunaga dubu vili wai
porāage. | O, Olulaga, with the handsome
face, you hanged the head on
the dubu (sacrificial stage). |
| Oi tauna kone melo gili wana
mō gitana. | Come, look at the boy from the
bush, playing on the shore
with a white crane. |
| Oru manu naro gege lagi
nama. | I am like a red parrot, I fly
away and return. |
| Vanuganani gera olo vanuganai
ora gena gipa manu noveni
varāa varāana. | There is a village on the
summit of a hill where men
are taught wisdom by an
eagle hawk. |
| Gilalaka lamolaka kila veagi
veagimu ma Molegolo ropina
pana kepoleana. | Gilalaka and lamolaka, boast-
ing who of us is strong enough
to overturn the platform on
Molegolo. |

Molegolo avalana lau mainana
minana poro kulou melan
minu vagi ana.

Polo kulo kilamu lai nevaina
oru aueku noi nepinu pinu-
ana.

Tinara ularana gena gemo
kakona pe gau rigo wagira
Kalo vanunganai pelewa kamu
lavilavina.

Melo tariku mo rakáauta mo
gurana mo rakáauta nlanana
mole konena mo tulu tepa-
tepa na.

When the north-west wind
blows lightly on Molegolo,
your head-dress of feathers
will be displaced.

I do not want a head-dress, I
will bind twine around my
ankles.

Our mother is at Kalo, where
the sun sets, let us be like
the gemo (a fish) and seek
her out.

My brother, what are you carry-
ing; and what are you doing
in the water, splashing it
about with your feet.

From the Papuan, as distinguished from the Melanesian districts of New Guinea we have few specimens. The Rev. J. Chalmers gives the following "Song before smoking" from Vaimuru, in the neighbourhood of Bald Head. It is said to have no meaning.¹

Arau mai e!
Io mari ē!
Erere mai e!
Aueva e!
Io mari e e!

Api amē!
Iau ē!
Aaumako e!
Iau ē!
Kuku! Ueako!

The words and tune of a song from Muralug or Prince of Wales' Island in Torres Straits have been given by Professor Haddon in his account of the Ethnography of the Western tribe,² and also in his description of the dances of Torres Straits.³ The words of this differ a good deal from the common speech, and are difficult to translate.

5. *Songs from the Solomon Islands.*

With the exception of the songs collected by Lieut. Somerville, which follow in the second part of this notice, I only know of the following song given by Mr. C. M. Woodford in the language of Aola, on the north-east coast of Guadalcanar Island.⁴ No translation is given.

Te mani, to mani,
To kai sambelagi mi,
Sambelagi tete mi,
Tete mbili-mbili loko mi,

Loko petepete mi,
Petepete uli mi,
Uli mani kande mi,
Kande ma kondo mi,

¹ Chalmers, Rev. J., "Pioneering in New Guinea," London, 1887, p. 68.

² Haddon, A. C., "The Ethnography of the Western Tribe of Torres Straits," in "Journ. Anthropol. Inst.," xix, 1890, pp. 378, 380.

³ Haddon, A. C., "The Secular and Ceremonial Dances in Torres Straits," in "Internat. Archiv für Ethnographie," Bd. vi, 1893, p. 148.

⁴ Woodford, C. M., "A Naturalist among the Head Hunters," London, 1890, p. 39.

Saria bombotoni mi,
Eo mai-u-ai mi,
Eo eo kiki mi,

Ki kiki rongo mi,
Ro rongo kindia mi,
Tindisotio.

The language is practically that of the island of Florida, and some of the words are intelligible, but I cannot make coherent sense of the entire song.

In the following portions of this paper are given some songs collected by Lieut. Boyle T. Somerville, R.N., during a surveying voyage of H.M.S. "Penguin" on the coast of New Georgia. The language of this island is best known by the vocabulary (in four dialects) by Lieut. Somerville, which has been printed for the Hydrographical Department of the Admiralty.² An account of this publication appeared in the "Journal of the Anthropological Institute for November, 1896."

The dialects of the songs and of the story which follows them are those of Rubiana in the south-west lagoon and of Marovo, the general dialect of the coast natives. The language presents many divergences from the usual type of Solomon Island tongues.

In what follows the songs and story are given as Lieut. Somerville wrote them and with his own notes and translations.

PART II.—SONGS FROM NEW GEORGIA, BY LIEUT. B. T. SOMERVILLE, R.N.

1. "*Sitima Belopura*." (*Balfour's Steamer: i.e., H.M.S. "Penguin."*)

Marovo or Eastern Dialect.

The song apparently describes the arrival of H.M.S. "Penguin" in the Marovo district of New Georgia. The part concerning Kelly and Griffith (the former a trader of Rubiana, the latter of Ngarasi, on the Northern Coast) is obscure. The two boys who gave me the words, made signs that it referred to the (apparently) hand-cuffing of some one. I could connect it with no incident that came to our knowledge either on board the "Penguin" or in camp.

The last five lines seem separate, and went to a different chant to the remainder.

Names in italics are those of places in the locality known to us.

Englandi Americana serosere Mbuka Nuki kiona pa India, pa
coasts (?)

Nunggini.

New Guinea.

Pa tu Laiti, pa tu Mata, pa tu Lila, pa tu Kevu, pa tu Mata.

Past (?)

² "A Vocabulary of Various Dialects used in New Georgia," compiled by Lieutenants B. T. Somerville and S. C. Weigall, R.N., H.M.S. "Penguin," 1893-4-5. Hydrographic Department, Admiralty, 1896.

Hore pa sera *Maroco*, boro Chiri, boro Kara, boro Tolu, boro Mane,
Down by coast (?)

boro Chiri, boro Toa, boro Kiva.

Hore mai pa kolo Chechen, pa kolo Nele, pa kolo Chalu, pa kolo
Down go by open sea

Dolunggu, kolo Onuku.

Hore mai pa boro Kua, hono hore mai pa kolo Kicha, pa
Down go by down come by open sea (two off-

Mbulo ;
lying islands).

Hore mai pa Chipura, pa Enekonggu, hore mai pa *Munjiana*, pa
Down go by down go

Minjalai.

Katekatini pa Orooroki, Mbote, pa *Bili Sangora*, Bili Tolelo, Bili
(Bili entrance to lagoon)

lupa, Bili Konggu :

Kare Chombuani, kare Cholani : pa *Karu-njin*, pa *Karu-njuke*,
Not not (an island)

Chavichaviani ;

Mai pa *Chochopo*, pa Ngoru-ngoranu mati.
(a point) reef.

Makasina hore la pa *Sangara Lumalike* ;
By and bye down go by (the Lumalike entrance) (facing Repi district),

Mai pa mati Mbaku, mati Vehi, mati Vio, mati Onasanga, mati
Come by (a reef in Lumaliki entrance) reef reef reef

Ndola, mati Ringgo.
reef.

Hore mai pa *Utuka* : hore mai Lumbe Chalu, maniwa.
Down come by man of war.

Chake nia kwaka sitima ta Keripi, tingonea atisegoro pa
steam-boat Griffith (a trader)

Sydney konggu, pa Sydney Lupa, tonua kwina.
queen.

Kwini ndoku pa pepelete atu kwaka pa sitima nahinini, kwaka
Queen sit boat steamer

tenga Kiripi.
Griffith.

Hore mai kwaka sitima Somerville, mai pa sera Okocho urungia
steam-bout

Bera-bera.

Matui ngululu Kelli pia herani "Penguin," ka pa pa
Kelly (a trader)

"Penguin."

Boro wa Kiripi tinoni limangu kaleli matau ni ene ni lapa ni koka
Griffith

pini.

Talokete pia herani ngu pa Karu Tenggara, omi pa Karu pa
Afraid here carry I to see

Ndovela.

Pia herani ngu pa Karu Vindalu, pa Karu Nepichi, pa Karu
Hera carry I to (Many lagoon islets are considered double and

Kaminde, pa Karu Cheruma, Karu Kachona.

called Karu, two, in consequence).

Omi pa Karu Namburu, Karu Ngenggulu, ngu, talokete eraka.

See I afraid I

Tapa meka wari wuke kisa machu pa maniwa.

One shark son man-of-war.

Nongge nongge kale matonde.

side making (i.e. right hand side).

Punja punja kale hendende.

side left.

Tapa meka wari ndami pira he viri.

one.

Tapa meka wari wuke tinoni pira.

one man that.

Kisa machu maniwa.

Shark son man-of-war.

2. Kolomoru (*The Night Wind*).

Kolomoruna

Kawo Konji

Night wind the (name of a small stream at Repi)

Kawo Tsalu keli mai.

(Another small stream) up come

Kolomoruna longgi

Chalu.

Night wind

(probably Tsalu again).

Kawo pa Konji: temara pa Wamba

Kawa pa Tsalu, m—m—m—.

3. The following song is sung to the same air:—

Monjeuangara mbolembolena

Mbalimbolena telemba be la

Kiripi.

Griffith (a trader).

Waka ta Repi, lulu pake masa.

Ship of Repi

Surangi Rakupisu,

hero tsura pa

kolo.

(name of a man)

open sea.

Honahapu pa Tsokura, pa Kovel, pa Khamba.

4. This song is also sung to the same air:—

Tua longoa pa Patasiu

Oma me ngoa pa Karu Maneki

(*Name of an island*)

Mbemaronono m—m—m—m.

Kurukuru pa Ndakolai

Pigeon

Angga hangga pa Reuvolo

Mbemaronono m—m—m—m.

Kurukuru pa Mbekala

Pigeon

Ulo tamaana, ulo tinana, ulo ndasine.

Weeps his father, weeps his mother, weeps his brother.

Chimbetusa ki narona m—m—m.

Tira vare ngu karo kale

Tendo vendove m—m—m—m.

All these songs were given to me by one lad and they are sung to the same air. If the words fail before the end of the air is reached, the singer hums the remainder with closed lips.

The last song may be partly in the Mbariki, "bush" dialect, though it was given to me by a "salt water" lad. Mbemaronono, in any case is Mbariki dialect for "name" or "your name."

5. *Song accompanying war dance of Gatukai Natives. (Eastern Dialect.)*

Pekapeka turu

Dance

Pekapeka turu

Dance

Polotu uasana

Egoria tsatsaveli

head

Turusangi.

6. The following was chanted by the Marovo district (also Mangeri) lads in derisive imitation of the mode of speech of the Gatukai men.

Ndeki ndeki pa Chaino—o—o:

Song-dance of

Lulu wa i ngua ngina lenggu hori kisa—a—a.

wait (?) I soon kill below shark.

7. A Rubiana song given to me by a small boy from Ngarasi.

Kokohai.

Koko hao ti-o-ke
Tani teko ti-o-ke
Koko hao ti-o-ke
Ngula teko ti-o-ke
Koko hao ti-o-ke
Tuma teko ti-o-ke
Piti koli ti-o-ke
Pa sa Saikile ti-o-ke
He Lilio ti-o-ke
Sa Sambeti ti-o-ke
Atū ngua ti-o-ke
Va tu khose ti-o-ke
Muki wose ti-o-ke
Asa puta ti-o-ke
Sasa puta ti-o-ke
Sighi tio ti-o-ke
Waliwuli tio ti-o-ke
Dingudinga leagu ti-o-ke
Ngumo pitu ti-o-ke
Hele pitu ti-o-ke
Ngasa pitu ti-o-ke
Embe pitu ti-o-ke.

8. Song supposed to represent the sound of a Jew's harp. (Eastern dialect.)

Koioro.

Koi-oro paipa,
Koi-oro pepa,
Koi-oro pipa,
Koi-oro paipa.

9. *Norowai.*

Tótoro tiowai
Tótoro towao
Kíworo kíworo
Nórowai nórowai.

I was informed by the small boy who gave it to me, that this was a "hope" or sacred song. I repeated it to one or two men, but they did not know or understand it.

10. Two other songs given me by the same boy: (Probably Eastern dialect.)

Tombi.

Tembo témbolo
Tombi témbolo
Tamba témbolo
Timba témbolo.

Inasi.

Kesa kesa
Kesa ruha
Kesa savoro
Oroketi
Tivula wawao
Revosia
Túmaneki tamanegi.

PART III. A STORY IN THE DIALECTS OF NEW GEORGIA.

A short story, not an original native one, but composed for the occasion. I in English, II in Island-English, III in Marovo. IV in Rubiana.

The story was first done into Rubiana by a native understanding English fairly well, and afterwards from Rubiana into Marovo, by a native understanding both tongues, so that whatever mistakes are in the Rubiana, the same are in the Marovo as regards the original English.

I.—*English version.*

Once upon a time, a man called Tasa went out to the Tomba Islands (the barrier islands that surround the North Coasts of New Georgia) to spear fish.

After a little while he caught a *makasi*, and had just placed it in his canoe, when another *makasi* came, and putting his head out of the water thus addressed him:—"Why have you killed my wife? By and bye my children will all die if they do not get their food from her."

Tasa replied, "Yes, but don't you see that my children will die too if they do not get fish to eat." The *makasi* returned, "Very well then, I shall go and tell my friend the shark, and he will catch hold of you, and kill and eat you." And he disappeared into the sea.

However, Tasa went on spearing fish, and when evening came he hoisted his sail to start back home to Mungeri. Hardly had he done so before a great wind rose, with rain, thunder, and lightning. His canoe quickly capsized and was broken by the waves, and Tasa began to swim for his life. However, the *makasi* had been as good as his word, and he came, bringing with him a shark and a crocodile. The shark seized Tasa by the head, the crocodile by the legs, and they tore him in two before his screams could call the attention of his friends.

Then the *makasi* laughed, and, going home, soon got another wife, who looked after the children so that none of them starved.

II.—*The same story in Island-English.*

Long time before, one fellow man, name belong him he Tasa, him he go along Tomba, along canoe catch him fish along spear. By and bye one fellow *makasi* he come, him he catch him, him he put him along canoe. Close up another fellow *makasi* he come, he put him head belong him out of salt-water, he sing out, "What name you shoot him woman-*makasi* belong me? by and bye altogether *picaninny* belong me he die suppose he no catch him *kaikai* belong him."

Tasa, him he talk, "What name you talk him, suppose *picaninny* belong me he no *kaikai makasi*, he all o'same *picaninny* belong you, altogether him finish, he die." Man-*makasi* he sing out: "All right, you look out, me go talk him shark, by and bye he *kaikai* along you." Him he go away along salt-water.

Tasa he go, he shoot him plenty fish, sun he go down, he put him up sail, he go quick along Mungeri. Big fellow wind he come, rain he come, plenty thunder and lightning he come, canoe he capsize, canoe he broke, Tasa he swim, he swim along. Shark he come, crocodile he come, Man-*makasi* he come, shark he catch him Tasa along head, crocodile he take him along leg, he pull, he pull plenty hard. Tasa he sing out, no man he come, by and bye he broke, he finish.

Makasi he laugh: him be go place belong him, he catch him.
another fellow woman: picaninny belong him he no die.

III.—*The story in M̄rovo or Eastern dialect.*

Mekarani lavata, meka kilana, meka tinoni Tasa la pa
Before big one name one mau Tasa go to
Tomba, bambao ighana.
Tomba spearing fish.

Pana ngina ighana makasi heru mai hinambu, hinambu
On the soon fish makasi carry come

makasi ngina raihi. Walusa pa mola na makasi. Heru
makasi soon Placed (?) in canoe the makasi Carry
mai makasi panangina mekarani. Varama pa kolo makasi
come makasi soon before from ocean makasi

"Hoi honama manemaneki tanguraka sa mbohoronia tamhoi?
You woman mine why your

lenggu nibeto kombura tanguraka, kani vai niningo lelenggu
die altogether children mine not fish die
kombura."
children.

Tasi seki tinana. "Sa njama ni hamu kani ngongo soku
Tasi killed mother. Why talk it you not it eat enough
komburu tanguraka, kande ngongo komburu ndio la va."
children mine it is not to eat children.

Njama ne ta sa makasi, "Omia chake nia makasi manda va lusa:
Talk makasi Look I it makasi

omia sa kiso moko ta usu ma nia ngu lenggu ngua."
look I shark of it come I die I."

Chongga la pa inderi ia.
Dies go in sea him.

Chokuna ighana va la i pa ngongo katingga. Njoro wo ini wa
Many fish go it to eat some. Set soon

toia tepe, pule mai pa Mungeri. Ngetena cherani
live it sail return come to Mungeri. Big hurricane (?)

are panagina ipu, na mungata, na rani, na paratata,
wind soon night the rain the day (?) the thunder
umbata, na rahi, are. Ngina opo mola, opo takuri,
surf the waves wind. Soon capsize (?) canoe broken
opo pemi tinoni, kiso basioto, na vna, na makasi.
man shark crocodile.

Herua kiso chavah hataomi tera, la hua usu kuri mahile; la ia
Took shark head leg go it

wai lima mahile hata omi. Tasa kukeli, kukeli, kani
five legs. Tasi sung out sung out not (they)

mai. Makasina takuri mbeto.

come. Soon torn finish.

Chomu makasi la pa kolo, manda wa lusa tinoni.

Makasi go to ocean man.

Meka hokiti manemaneki, kani lenggua komburu tania.

One buy (?) woman not die children his.

Note.—There are several places where the English meaning has evidently not been apparent: and, indeed, the whole story seemed a strange sequel of sentences to the interpreters without a familiar idea, or anything which made sense, while it was being translated bit by bit. Once or twice they appear to have translated the little bits of side explanation which were made to them, not as part of the story but to elucidate the meaning of some particular clause.

IV.—*The Story in Rubiana dialect.*

Pukerani lavata, keke posana, keke tie Tasa ila pa Tomba hi

Before big one name one man Tasa go to Tomba

hena hopere na ighana.

catch spear the fish.

Ngina igana makasi hena mai siramu, wagi makasi siramu hena.

Soon fish makasi.

Surangi pa mola ra makasi. Kohite imaisa makasi keke wo

Put in canoe makasi.

ti kaina. Vurana mbatuna ra makasi, vura pa kolo:

Put up his head makasi put up from ocean

"Agoi sigona sa mbareka lengge tangurao, na sasi bugoro nia

I woman mine

si agoi, kote mate mbeto puku komburu tangurao, lopa hena

soon die altogether children mine not get

khinane, kekanggu mati.

food dead.

Tasa se jeama agoi. "Sa sejeama ni siramu wenagua ke lopu

Tasa talk I. not

khanikhani so komburu tamu agoi, ke kangu mate ke lopu

food children things not die not

khanikhane." Njama me tu sa Makasi. Dogoriatu hake-

food. Talk Makasi.

niatu mamu kukilinia manda la ia. Dorea sa kiso meke

Shark

tararatanea manda vovete nia tu. Hako tararata arao ke

hake mati angua. Arao hongga la pa kolo.

I dive (?) go into ocean.

Talea si khita sigona soku igana manda khanikhani.

Plenty fish food

Londu sa rimata we ko matana sa tepi, awugo ra sa arimiata pule
sun sun return
 mai pa tani Mungeri. Nomana rani mbongi pe mai sa
come to that Mungeri. Long day night come
 iguchū, hote mai sa ruku, kote meke paka,
fire (lightning?) come rain soon gun (thunder?)
 samangaru kalijerua meke kapi. Kote meke opo sa mola,
bad. Soon canoe
 meke moku, meke tunoro, meke rani ramda kiso, basietto,
break shark crocodile
 mai sa Makasi. Mai wagia sa kiso sa mbatu palekia taloa
come Makasi. Come the shark the head take
 lopu ta ndaoro. La sa mbasietto kharettia nene kele tamoku.
not of. Go the crocodile
 Laso meka wagi sari na limana nene. Tasa kukeli, lopu mai
foot (?) Tasa sing out not come
 sa tie. Kohiti moku mbeto.
a man break finish.
 Heghari sa makasi la pa kolo mandu wa lusa ia.
the Makasi go to ocean.
 Keke wotiki mbareka lengge. Lopu mati sa komburu tamu agoi.
One buy (?) woman. Not die the children thine.

Native Dyes and Methods of Dyeing in Korea.

By E. B. LANDIS, M.D.

ALTHOUGH it is scarcely a dozen years since Korea was first opened to foreign commerce, yet in that short time native dye-stuffs have been almost supplanted by the cheaper and better aniline dyes. Few of the native dyes are now in use, and those only in the more remote portions of the country. Of some it is almost impossible to obtain specimens, and of others the difficulty is less only because they are used in medicine or for other purposes than dyeing. This difficulty, of course, only refers to the prepared dyes, the plants and trees from which they are obtained being indigenous, will always remain.

I. Red Dyes.

1. *Cha Cho* 紫草. Obtained from the roots of the *Lithospermum officinale* L. var *erythrorhizon*.

2. *Hong Hua* 紅花. This is the dried blossoms of the *Carthamus Tinctorius* L. It is largely cultivated in gardens, both for its flowers and for its use as a dye. It dyes a bright scarlet. These dried blossoms are also used largely in medicine, being a favourite remedy for aches and pains.

3. *Hyang Il Hwa Cha* 向日花子, *lit.* facing the sun, seeds. Seeds of the sunflower. *Helianthus Annuus* L. These dye a deep red. This plant is also cultivated for its showy flowers as well as for use in medicine. The children also eat the kernels of the seeds, discarding the shell. The natives assert that this plant is not indigenous to Korea, having been introduced from China several centuries ago, but at present it is found throughout the peninsula. The common name is *Hai Päraki*, *i.e.*, Hope in the sun.

II. Brown Dyes.

4. *Sang Mok Pi* 橡木皮. The bark of the *Quercus Sinensis*. The common name is *Sang Su Ri*. This bark dyes grey and ochre as well.

5. *Song Mok Pi* 松木皮. The bark of *Pinus Sinensis*.

III. Blue Dyes.

6. *Nam Cho* 藍草. Leaves and stems of the *Polygonum Tinctorium*. The common name is *Jök*. The colour obtained from this dye is dark blue. The entire plant is used.

7. *Chu Mok* 楸木. Wood of two species of *Catalpa*, the *C. Bungei*, C. A. Mey; and *C. Koempferi*, S. and Z. It dyes a deep violet.

8. *Nam Mok Pi* 楠木皮. The bark of the *Machilus Nanmu* *Helm.*

9. *Cheng Tai* 靑黛. The stem and leaves of the *Indigofera Tinctoria* L. This dyes a dark blue and is used for dyeing women's skirts, bed covers, and soldiers' clothing.

Only widows should prepare it, and until recent times only widows sold it, carrying it about from house to house. Should a married woman prepare it she must occupy a room separated from her husband until it is entirely prepared. Should a person die in the house or even a corpse pass the door while it is being prepared, it will be useless as a dye.

IV. Grey Dyes.

10. Charcoal made from bamboo wood.

11. Charcoal obtained by burning the Bottle Gourd, *Lagenaria Vulgaris* L.

V. Yellow Dyes.

12. *Koi Hwa* 槐花. The blossoms of *Sophora Japonica* L.

13. *Oi Cha* 梔子. Seed pods of the *Gardenia Florida* L. This is found in great quantities on the island of Quaelpart. In other parts of Korea it is not found growing wild but is largely cultivated. In the northern part of the peninsula it must be potted and kept in the house during the winter. Under these circumstances, therefore, it can only be grown for its beauty. The seed pods are strung up, one hundred on a string, and these are seen

hanging in the shops, from which strings a number are cut for purchasers. They sell six pods for twenty-five cash, that is about a farthing. These seed pods are also largely used in medicine.

14. *Ul Keum* 鬱金. The fruit of *Curcuma Longa* L. var *Macrophylla* Mig.

15. *Hwang Paik Pi* 黄栌皮. Bark of the *Phellodendron Amurense*.

16. *Hwang Keum* 黄芩. This is obtained from two species of *Scutellariae*, the *S. Macrantha* Fisch. and *S. Viscidulae* Bge.

VI. Black Dyes.

17. *Pung Mok* 楓木. Common name *Sin Na Mu*. This is the wood of *Liquidambar Formosana* Hce.

18. Common writing ink, which is as in China and Japan, India ink. This is ground up into powder and mixed with water and thus used as a dye. No reagent is used for fixing the colour. This is not a commonly used dye, as if the material becomes wet or damp, the colour comes out and stains under-clothing as well as the body. For dyeing black, therefore, No. 17 is chiefly used.

VII. Auxiliaries used in fixing dyes.

19. *Oh Pai Cha* 五倍子. Nutgalls found on the *Rhus Semialata* Muir. These are found chiefly in the province of Kang Wön, and are chiefly used for fixing dark colours, such as blue or purple.

20. *Oh Mi Cha* 五味子. Cranberries, or the fruit of *Schizandra Chinensis* Baill. These are found growing wild in the north-eastern part of the peninsula and up as far north as Vladivostock, in Siberia. The fruit is dried and is used chiefly in fixing red dyes. The fruit is also a favourite remedy for certain diseases. As an aid in fixing colours it is not in very common use outside of the districts where it is indigenous.

21. *Paik Pan* 白礬. Alum. This is the most commonly used of all the agents for fixing dyes. It is also used largely in medicine. It is imported from China. It is not indigenous to Korea.

22. *Keum Keum* 黔金. *Ferri Sulphas*. This agent is used only for black or very dark dyes.

23. Vinegar. This is very rarely used, not being nearly so efficacious as the other reagents.

Paints and Painting in Korea.

Paints unlike dyes have not been so universally replaced by those of foreign manufacture. The paints are all sold in powder, and to get them ready for use glue is added as well as water. This glue is made by boiling ox-hides in water for some time, and then allowing it to cool.

I. *Yöu Chi* 胭脂. A red paint made from *Hibiscus Rosa-Sinensis*. It is also used as a paint for the cheeks and lips of women (chiefly prostitutes) and children.

II. *Poun* 粉. A white paint obtained from the *Mirabilis Dichotoma*. The seeds of this plant are boiled, which causes the shells to burst. They are then dried and the shells discarded. The inner body of the seed is then made into a cake with the aid of water. This is also used for powdering the face of girls and children. (*Vide* "Painting and Tattooing.")

III. *Mök* 墨. Black paint which is the ordinary ink of the pensman, and of which there are many kinds varying in price from a farthing a piece to a shilling.

IV. *Chu Hong* 硃紅. Vermilion paint which is a native red sulphuret of mercury. This is simply mixed with glue as above.

V. *Chang Tan* 漳丹. A vermilion or scarlet paint is red oxide of lead.

VI. *Huang Tan* 黃丹. A reddish paint *Litharge*.

VII. *Sök Huang* 石黃. A yellow paint which is the yellow sulphuret of arsenic or orpiment. This substance is all brought from China.

VIII. *Sam Nok*. A green paint. *Cupri Subacetas* or *Verdigris*. This is made from copper.

IX. *Sök Kan Chu* 石間朱. A reddish paint. This is made from refuse sulphur. It is taken and roasted over the fire.

X. *Il Chông, I Chông, Sam Chông* 一青, 二青, and 三青. This is prepared from *Indigofera Tinctoria* L. These three kinds of paint are three different shades of blue, 三青 being the darkest.

Over and above these ten varieties of paint there are a number which are imported from China. These I have not attempted to describe as they are not indigenous.

These paints are used only by the common people for painting screens and panels, the painting of their dwellings being forbidden. According to Korean law no buildings can be painted save the Palace and the official residences of the District officials. To this must be added Buddhist temples or rather the buildings which contain images of Buddhist saints. Those apartments occupied by the monks cannot be so decorated.

Painting and Decorating of the Body.

I. Tattooing is not practised in Korea.

II. The Moxa is often applied over the anterior fontanelle of children. By means of this a small space is burnt about as large as a farthing. This is for the prevention of convulsions, a common cause of death amongst children in Korea. It is more common in the two north-western provinces than in other parts of Korea.

III. Over the anterior fontanelle of children is also applied cinnabar. This is for preventing evil humours from entering the child's skull and so causing sickness and death. Cinnabar is supposed to possess miraculous powers over demons, as well as evil influences of all kinds. The most efficacious charms are

written with cinnabar, and it is one of the necessary ingredients of all medicines used for the prolongation of life. The same belief is held in China, and there is very little doubt but that it came to Korea from China.

IV. The lips and cheeks of prostitutes and children are reddened. This is done with *Hibiscus Rosa-Sinensis*.

V. Powdering the face. This is done with a powder made from the seeds of *Mirabilis Dichotoma*. The covering of the seeds is discarded and the inside alone is used. For the method of preparation for the market see "Paints and Painting." In applying it to the face, a portion of the cake is reduced to powder and mixed with a little water and so applied. It is used by women and children.

VI. The temples and back of the head are also daubed with safflower. The root of *Acorus Calamus* is taken and cut into two. One of these cut portions is then dipped into safflower and a daub is made on each of the temples and on the occiput. This is applied only to children, and is supposed to keep away demons.

VII. Staining of the finger nails.

Girls stain their finger nails by petals of *Impatiens*. The thumb and index finger nails are not stained, only the three remaining ones, or sometimes only the nails of the ring and little fingers.

Sometimes married women and little boys stain their nails in the same way, but as a rule it is only confined to girls. The origin of the custom is attributed to Yang Kwei-fei (the all-powerful favourite of Ming Hwang, one of the Emperors of the Tang Dynasty in China, A.D. 745), who had a deformed nail and to cover this deformity she stained it. The origin of the wearing of finger-rings in Korea is also attributed to this same person, who wore them in order to hide a blemish on her hand.

The Palæolithic Deposits at Hitchin and their relation to the Glacial Epoch. By Clement Reid, F.L.S., F.G.S., of the Geological Survey. "Proc. Royal Soc.," vol. lxi, No. 369 (March 26, 1897).

In the Journal of this Institute for February, 1897, p. 305, there is a notice of the Report of a British Association Committee appointed "with the object of clearing up certain doubtful points as to the relation of Palæolithic man to the Glacial Epoch." Hoxne was selected as the best place for the investigation, and the results obtained there made it desirable to ascertain whether the conclusions thence derived would receive support from a similar exploration at Hitchin, where Palæolithic implements have frequently been found. Accordingly, at the instance of Sir Archibald Geikie, a grant of £50 was obtained from the Royal Society for that purpose, and Mr. Clement Reid, who was manager of the Hoxne exploration, was placed in charge of the investigation at Hitchin.

At Hitchin boring was much hindered by the "coarse, loose and

watery character of the strata," which caused the abandonment of borings through the closing in of their sides. Attention was mainly directed to the relations of the Chalky Boulder Clay to the Palæolithic loams, borings being made in the pits out of which implements had been dug. Only one boring passed through undoubted Boulder Clay, though in another borehole "some blue chalky clay" was penetrated, and in a third derivative fossils from the Boulder Clay were found in the lower part of the old alluvium. The section in which Boulder Clay was found is here given.

		ft.	in.
Palæolithic ..	Yellow brickearth and small stones ..	14	6
Ancient alluvium ..	{ Yellow and white marl and silt. ..	2	0
	{ Yellow loam and small chalk pebbles ..	0	6
Glacial ..	{ Chalky Boulder Clay	9	0
	{ Loamy chalky gravel (base of Boulder Clay)	2	0
	{ Gravelly sand (boring stopped by large stones)	8	0
		<hr/>	
		36	0

The high level at which Chalky Boulder Clay was found, and its absence, or representation by material derived from it, at lower levels, in borings nearer the centre of the channel, suggests to Mr. Reid that "the channel was, to a large extent, excavated, or re-excavated after the deposition of the boulder clay, as was the case at Hoxne."

The ancient river alluvium is entirely overlapped and hidden by the overlying Palæolithic brickearth. The trend of the buried channel appears to be from south to north, and runs parallel to the course of existing streams. The stony brickearth yielded scarcely anything but Palæolithic implements, and the ancient alluvial deposits below, though full of plants and shells, were without any trace of man. The mammalian remains all came from the whitish marl and silt immediately below the Palæolithic brickearth. They consisted of *Ursus*; *Equus caballus*, *Linn.*; *Rhinoceros*; *Hippopotamus* (a waterworn bone); *Cervus elaphus*, *Linn.*; *Elephas primigenius*, *Blumb.*

Mr. Reid notices the very striking general resemblance between the beds examined at Hoxne and those at Hitchin. On attempting to correlate them, however, the bed with arctic leaves, conspicuous at Hoxne, is found to be absent at Hitchin. He adds, "At each locality the same story is told. Some time after the passing away of the ice the land stood higher than now, so that the streams had a greater fall and valleys were cut to a somewhat greater depth. Then the land sank and the valleys became silted up with layer after layer of alluvium, to a depth of at least 30 feet, the climate remaining temperate. The next stage, when an arctic flora reappeared, is only represented at Hoxne. The third

stage in the infilling of the valleys is shown in the curious unstratified decalcified brickearth with scattered stones and palæolithic implements, identical in character at Hitchin, Hoxna, Fisherton and other localities, which irresistibly suggests a mingling of wind-transported material and rainwash."

A full list of the fossil remains found and the details of the various borings made are given.

T. V. HOLMES.

"Secwana Dictionary." English - Secwana and Secwana-English. Compiled by John Brown. Printed for the London Missionary Society by Butler and Tanner, Frome and London, 1895. Sm. 8vo., 466 pp.

This is a new edition of a volume which originally appeared nearly twenty years ago, and will prove exceedingly useful to those who are brought into contact with the native races of South Africa. The language (commonly called the Sechwana) is that spoken by the Ba-tlhaping tribe in Bechwana-land, and is generally understood by the Bechuana tribes in the Transvaal and in the regions between the Transvaal and Kalahari Desert. It is the most important member of the Central Sub-Branch of the Southern division of the great Bantu linguistic family, the Zulu and Kafir representing the Eastern, and the Herero of Damara-land the Western Sub-Branches of the same division. The Bechwana nation are rapidly being brought under the influences of civilization, and three of the chiefs, Khama, Bathoen, and Sebele visited England in 1895 in order to obtain help in various enterprises for the benefit of the people. Mr. Brown gives some "Hints to learners of Secwana" as an introduction to the dictionary. These comprise in the simplest possible form the necessary grammatical elements for the formation of simple sentences and phrases in the language. The book is well printed, of a convenient size, and has rounded corners for carrying in the pocket.

S. H. RAY.

The American Anthropologist. Vol. ix, No. 12. "Ornithological Vocabulary of the Moki Indians," by Dr. Edgar Mearns, U.S.A. (illustrated); "Stone Images from Mounds and Ancient Graves," by Cyrus Thomas (illustrated); "The Vigesimal System of Enumeration," by Cyrus Thomas; "Australian Class Systems," by R. H. Mathews.

The Australasian Anthropological Journal. No. 3, February. "Drawings and Carvings of the Australian Blacks," "Information about Australian Tribes," "Marked Trees of a Bora Ground and their Meanings," "Message Sticks" (*continued*), "Myth of Australia," "Thowra and the Seven Myells," "Songs by Australian Blacks," "The Month's Proceedings of the Anthro-

pological Society," "The Ethnology of Australian Blacks," "The Red Species of Mankind," "Travelling Teeth," "An Aboriginal Custom."

Madras Government Museum, Anthropology, Bulletin.
Vol. ii, No. 1. "Badagas of the Nilgiris," "Irulas of the Nilgiris Paniyans of Malabar," "A Chinese-Tamil Cross," "A Cheruman Skull," "Kuruba or Kurumba."

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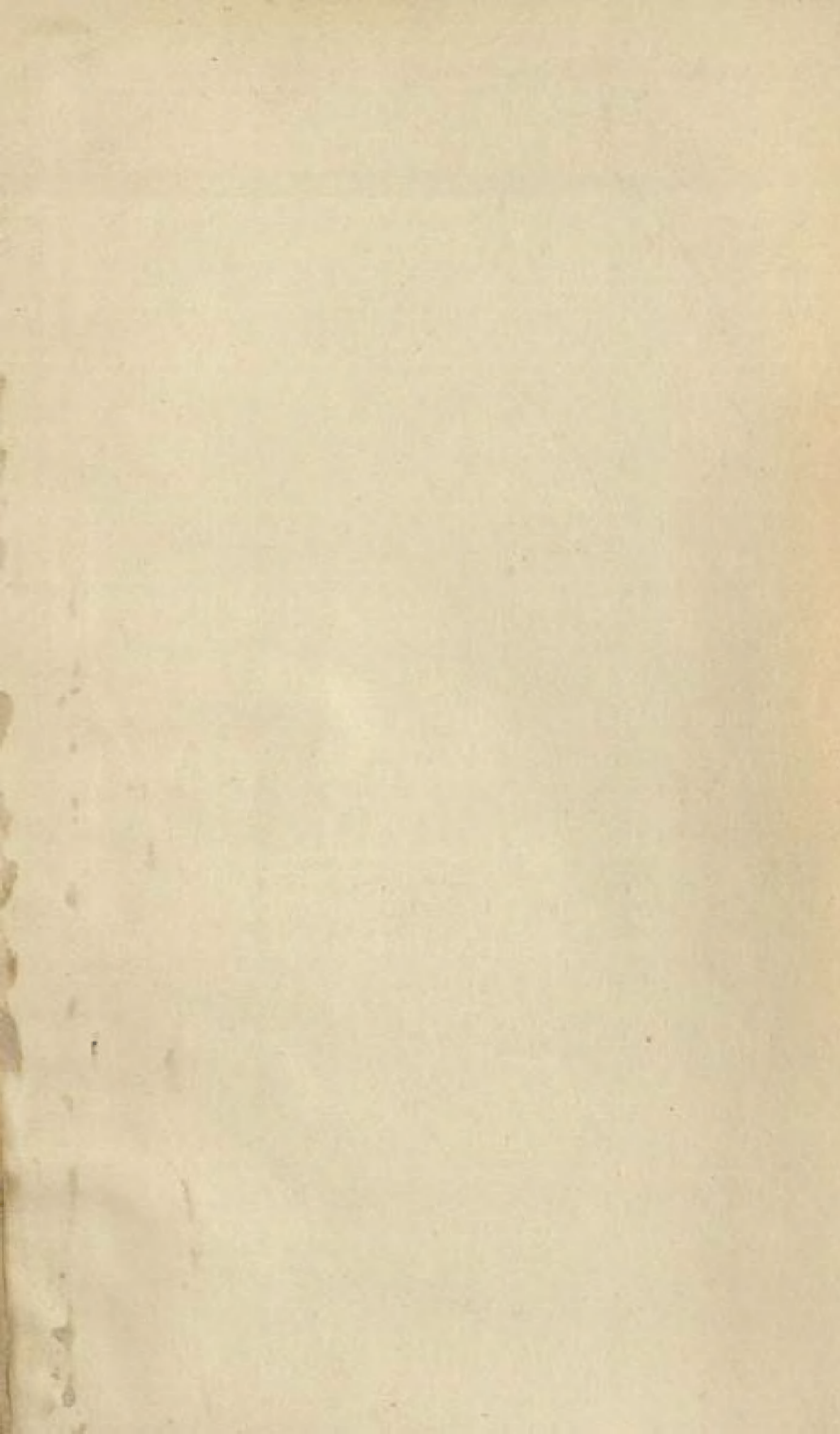
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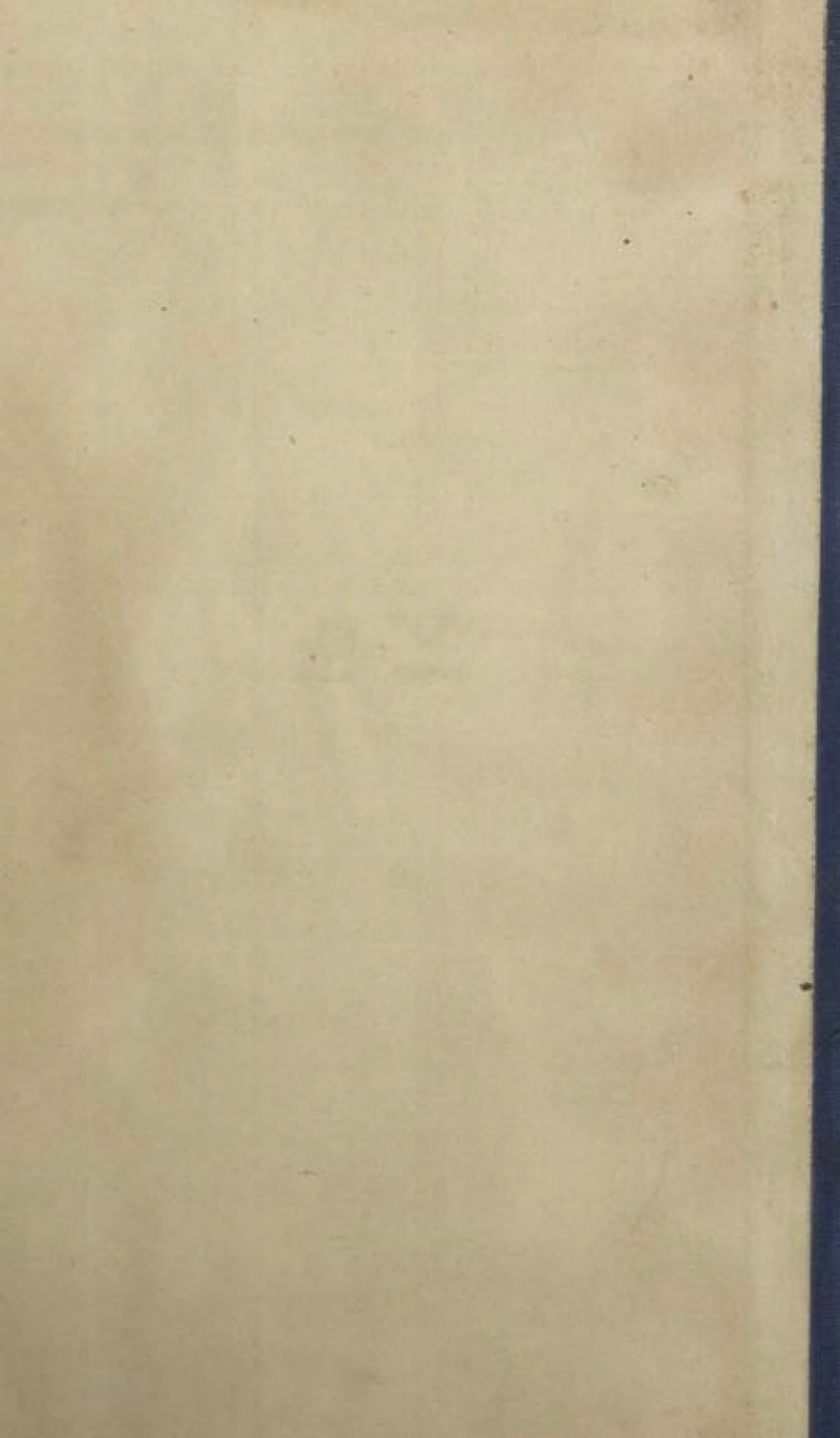
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